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INTRODUCTION TO THE
NATURAL HISTORY OF LANGUAGE

INTRODUCTION

TO THE

NATURAL HISTORY

OF LANGUAGE

BY

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PREFACE

CONSIDERING the increasing interest which is taken by persons of intelligence in all branches of science that deal with human development, it is a matter for some surprise, and certainly for no small regret, that so little of an exoteric nature is written upon the science of language. Philologists are aware how vast an amount of linguistic research is being patiently performed, and what excellent treatises of a particular nature are now and again produced, but for the most part the results hardly spread beyond the sphere of the specially initiated. Professed students of Comparative Philology, to whom the general principles and main facts of the science have become elementary knowledge, are perhaps unaware how close is the corporation to which even that degree of enlightenment is confined. They hardly realise, with Max Muller and Whitney, that there is a world of thoughtful readers who have little time or taste for the minute details or metaphysical speculations of the subject, but who nevertheless desire to obtain some comprehension of the general course of linguistic development and of the chief facts of the distribution and history of language. The age of *Volksbucher* is rather beginning than ending.

The science of language is perhaps not one of the easiest to handle with this class of readers in view. Even an introductory sketch is apt to involve itself (as does the otherwise excellent work of Sayce) in somewhat abstruse

speculations concerning the relations between psychical and physical operations. This rock was successfully shunned by the brilliant expository genius of Max Muller and by the virile discretion of Whitney. On the other side lies the Charybdis of excessive detail, and of this also both writers steered clear   It happens, however, that, thanks to the progress made since the appearance of the *Lectures on the Science of Language*, Max Muller's conceptions or statements require frequent correction. On the other hand, while it is hopeless to think of improving upon Whitney's most admirable work in those matters with which he elected to deal, there are sundry other topics which may at this date be included with profit , moreover, a new writer may be permitted to see various matters in a different perspective as to importance or interest, or he may approach them with somewhat different views

The present book is what its title implies , it is an outline   So far as it is a student's book, it is meant for nothing more than a first general survey of the field   It does not hope to enlighten materially the professional philologist, but only to bring him disciples. Nevertheless, it is no mere compilation   The facts are necessarily in a considerable measure the same facts which have done duty in other works, whether general or special, but the writer trusts that he has employed sufficient independence of thought in weighing various theories against the material, and in offering, with all due diffidence, conclusions or speculations of his own.

Where there exist books of a suitable kind dealing with special topics in a sufficiently popular manner, the present work has, in the interests of space, abbreviated the treatment of those topics. For this reason comparatively little is said upon the large and extremely interesting themes of

Semantics and Analogy. Nor has it seemed any more necessary at this date to give a history of linguistic science than it would be to give a history of biological science in an introduction to that study as now established It has also been thought best not to assume that readers are necessarily conversant with Latin or Greek.

A writer so far removed fiom his printer, and dealing with detail from so many languages, can hardly expect to have avoided or corrected every error   But it is hoped that any which perchance *humana parum cavit natura* will be such as in no way to vitiate the context.

The author has to thank his friend, Dr J. P Wilson, formerly Headmaster of the Presbyterian Ladies' College, Melbourne, for his kindness in reading over the greater part of the work when in manuscript with a view to testing its lucidity and consistency of expression   A similar acknowledgment is due to Professor R. T. Elliot, Worcester College, Oxford, who read over the proofs

The chief works which have been consulted in the preparation of the book are the following :—

Bleek   *Comparative Grammar of South African Languages.*
Brachet and Toynbee   *Historical French Grammar*
Bréal (and Postgate)   *Semantics.*
Brugmann and Delbruck   *Grundriss der vergleichenden Grammatik der indogermanischen Sprachen.*
Conway   *The Italic Dialects*
Darmesteter   *La Vie des Mots*
Delbruck   *Introduction to the Science of Language*
Deniker   *The Races of Man*
Diez   *Grammaire des Langues romanes*
Douse · *Introduction to the Gothic of Ulfilas*
Gabelenz · *Die Sprachwissenschaft*
Geiger   *Development of the Human Race.*
Giles · *Manual of Comparative Philology.*

Greenough and Kittredge : *Words and their Ways in English Speech.*

Grober . *Grundriss der romanischen Philologie*

Henry (Victor) *Comparative Grammar of English and German.*

    „   *Grammaire comparée du Grec et du Latin* (trs Elliott)

Hovelacque *Families of Language* (trs Keane)

Huxley *Essays*

Jespersen *Progress in Language.*

Keane *Ethnology*

    „   *Man Past and Present*

Kluge and Lutz *English Etymology*

Kretschmer *Einleitung in die Geschichte der griechischen Sprache*

Lefèvre *Race and Language*

Misteli (after Steinthal) *Charakteristik der hauptsachlichsten Typen des Sprachbaues*

Muller (Max)· *Lectures on the Science of Language*

Muller (F) . *Grundriss der Sprachwissenschaft*

Murray and Bradley *The Oxford English Dictionary*

Oertel *Lectures on the Science of Language*

Paul· *Principien der Sprachgeschichte*

Sayce *Introduction to the Science of Language*

    „   *Principles of Comparative Philology*

Schrader (and Jevons) *Prehistoric Antiquities of the Aryan Peoples.*

Schrader : *Reallexikon der indogermanischen Altertumskunde*

Skeat · *Principles of English Etymology.*

Spencer (H) *Essays Scientific and Speculative.*

Strong, Logeman and Wheeler *The History of Language*

Sweet *History of English Sounds*

Taylor (I) *The Alphabet*

Tylor : *Anthropology.*

Wheeler· *Analogy and the Scope of its Application in Language.*

Whitney *Language and the Study of Language*

    „   *Life and Growth of Language*

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INTRODUCTION

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CHAPTER I

NATURE AND SCOPE OF THE SUBJECT

APART from the study of a special language—whether for practical purposes as a means of communication, or for the comprehension of works of literature in that tongue—there is a science of 'language' in itself. Just as there is a science dealing with life, and thence called Biology, or as there is a science dealing with the earth, and thence called Geology, so there is a science dealing with language. Of its proper title something will be said later.

The methods and scope of this study are analogous to those of the sciences named. Geology, for example, investigates the structure of the globe and its history. It considers the component parts of the earth and their relations to each other, and inquires into " the successive changes to which their present condition and positions are due." Biology, again, takes organised beings, both animals and plants, and inquires into their structure, physiology, development, and distribution. In brief, the questions which these sciences ask are of the following and similar nature. Of what does the earth consist? How did it come to possess

the formations which it now shows? What has been the history or development of the various forms of life which we find around us? And in seeking answers to these and other questions there is applied the scientific method. A science is no science unless its basis is the exact observation of all the ascertainable facts, and unless it draws its conclusions or inferences with scrupulous regard to those facts

Similarly, in its ideal conception, the Science of Language should deal with all the material and phenomena of language, or, in other words, with all the facts of speech. With exact observation of these, and with cautious argument therefrom, it should investigate the structure of ascertainable languages, their history and transformations, their relations to each other, their differences, and the causes or laws of those differences The questions which it should ask are such as the following ·—From what beginnings did speech develop itself? By what different processes have various languages sought the means of expressing ideas? How and why have kindred speeches diverged from each other? Are there any discoverable laws of change, either for language in general or for an individual tongue? As Whitney has expressed it, the whole subject of linguistic investigation may be conveniently summed up in the single inquiry, "Why do we speak as we do?"

Before proceeding further it is necessary to define 'language' Language is uttered sound, but not all uttered sounds are language. Tylor's definition, which hardly admits of improvement, is that language is "the expression of ideas by means of articulate sounds habitually allotted to those ideas." Ideas may be communicated also by gesture, but gesture is not language in the sense in which this science treats of it. Language is speech, and speech has always been regarded, except by fable-writers, as the peculiar possession of mankind If we could gather sufficient trustworthy data concerning any sounds by which animals habitually express ideas, these also might naturally

come within the scope of the same science , but at present this matter lies quite outside practical consideration. Any human utterances, however, which fall within the above definition of language are material for the science No language is too barbarous or obscure A student who deals with language in general in and for itself, is (says F. Muller), as compared with the practical linguist or the student of some special language and literature, very much like the botanist as compared with the gardener , to him wild plants and weeds have their interest as much as useful plants or flowers. To the botanist the facts of docks are as important as the facts of roses , to the student of language the facts of aboriginal Australian or Eskimo are as important as those of Greek or French

Apart from any purpose of direct utility (in the narrower sense of that much-abused word), there must always exist a natural interest in this branch of study. In any case it would be enough to plead with Aristotle that "the use of the intelligence is highly agreeable, not only to philosophers, but to other people as well" Human beings, when properly constituted, have an innate and compelling desire to know as much as possible of the truth, even concerning things of which they cannot determine the fate, or which do not appreciably touch their own destinies. To all such it is a legitimate satisfaction to feel that they are not entertaining erroneous notions as to the interrelations of languages, or the laws of their progress, or the question whether, for example, human speech is improving or deteriorating. An enlightened way of looking at the phenomena of pronunciation, grammar, or the dictionary, is a valuable endowment for any one who loves culture for its own sake

To many minds such a reason for the study is alone ample. Others will find a fuller satisfaction in the consideration that in language is to be met the most complete record of the expansive efforts of human thinking. W. von Humboldt has well said that language is the outcome of

"the eternal striving of the human spirit to make the
articulated sound equal to the expression of the thought."
It is the manifestation of the human mind through an
audible medium, and its history, therefore, throws much
light on the history of that mind. The understanding of
the origin, history, and development of language must
accordingly form a part of the material for arriving at any
great synthetical philosophy.

But, meanwhile, a training in the science of language
possesses a more immediate and tangible utility for the
student of any given individual tongue. An intelligent
grasp of the operations and principles underlying all
language is an excellent equipment for one who is brought
face to face with the peculiarities of accidence, syntax, and
turns of expression which belong to a particular speech   As
M. Henry observes, "The grammar of any language, con-
sidered by itself, seems a purely empirical collection of
arbitrary rules, traversed by exceptions still more arbitrary,
which it is satisfied with formulating, without being able to
give their *raison d'être.*" For the student of the science of
language the sense of arbitrariness or capriciousness is in
such cases almost, if not wholly, removed. In many
instances he can readily discern the reason for a phenomenon ;
sometimes he can prophesy its appearance   Where he
cannot actually discover the precise reason, he is sure that
a perfectly natural one exists. A student of Greek, and of
Greek alone, finds in different writers different forms of the
same words. Sometimes he is informed that they represent
various dialects ; sometimes they are put down to 'poetic
licence.' These statements he may perhaps retain by an
effort of memory. Very unlike is the case of the student
of Comparative Philology (as the science of language is
commonly called in the English academic world)   To him
the knowledge that the Ionic Greek said τοὺς ἀγρούς (*tous
agrous*), the Doric Greek τὼς ἀγρώς (*tōs agrōs*), and the
Lesbian Greek τοὶς ἄγροις (*tois agrois*) for the plural objective
case, 'the fields,' is not merely so much isolated and dead

information. He realises that behind these phenomena there is some intelligible cause, physical or mental, which will be found to operate again in other matters affecting those dialects. Inquiry reveals the fact that in a more primitive Greek the words were τὸνς ἀγρόνς (*tons agrons*), and that the three divergent forms represent the several pronunciations into which *tons agrons* was slightly corrupted by the three divisions of people concerned. All three abandoned, though gradually and not deliberately, the nasal in the syllable *-ons*, and the result, which was slightly different in each case, depended on certain peculiar tendencies of each division. Those tendencies we must expect (and we shall find) to repeat themselves on every occasion on which they can come into play In other words, they are subject to rule, and the cause of the rule is known. Similarly, a student of Latin is no longer puzzled at the statement that a so-called genitive (or 'of' case) *magnī* can be used for the price 'at' which, nor is he surprised that *Rōmae* can mean equally '*of* Rome,' '*at* Rome,' and '*for* Rome.' The empirical teacher of Latin is (or was) wont to speak of the genitive plural *deum* ('of gods') as 'a contraction of *deōrum.*' Our better-equipped student will know, not only that such a contraction is impossible, but also that the two words are distinct formations, and that *deum* is in reality the older form of the two. In dealing with the English language, he will be prevented from offering confused or baseless explanations of the phenomenon that a man of Somerset or the Lowlands uses a pronunciation and vocabulary which are not those of literary English , he will also be on his guard against the unsubstantiated etymologies which still too often figure in both literature and conversation

Nor, again, is it to be despised that a closer examination of languages reveals analogies and similarities of principle which bring us into more sympathetic understanding of foreign nations. The idioms of foreigners often appear strange or unaccountable, if not infantile, grotesque, or ludicrous. By an illusion, which it is hard to shake off, we

are consequently apt to regard their mental processes as peculiar, and occasionally childish. The scientific study of language does more than correct this error. It brings home the truth that the human mind, as disclosed in its efforts towards expression, is, or has been, very similar in its workings, even in the case of nations the most widely re-removed in situation, race, and colour. In Japanese the phrase 'I want water' is *mizu ga hoshiū gozaimasu*, of which the literal rendering is 'water-of desirous am.' To English ears this sounds sufficiently extraordinary, and it might easily be inferred that there was some peculiar 'idio-syncrasy of the Far East' in the mental operation which evolved the expression. Nevertheless it in no way differs either in structure or order from the Latin *aquae cupidus sum*. If the Japanese for 'a thing to be done' is literally 'a do-must thing,' there is again no real distinction between this form of phrase and the Greek χρῆμα πρακτέον (*chrēma prakteon*), the Latin *rēs facienda*, and such English as 'a do-able thing.'

The fittest name to be given to the science of language is still undetermined. *Science of Language* explains itself and is open to no objection but that of cumbrousness. What it lacks is the compactness which belongs to such terms as Geology, Physiology, and the like. *Comparative Grammar*, again, though theoretically correct, is apt to be misleading in consequence of the narrower sense commonly attached in English to the word 'grammar.' It seems better, therefore, to reserve this term for a more limited comparison of structural principles and methods. The German word *Sprachwissenschaft* might be translated 'speech-science,' but in that form the title is unlikely to meet with any recognition. *Linguistic* (which as *Linguistique* once found some favour in France) has proved abortive; and *Glottology*, the most satisfactory term in respect both of formation and meaning ('the science of tongues'), has hitherto missed that acceptance which seems to denote ideal aptness.

The academic term commonly employed in English is *Comparative Philology*, and there is perhaps a growing tendency to apply a lax and undesirable use of the single word *Philology* in the same sense   The matter is somewhat complicated by the fact that in its proper acceptation 'Philology' in English, as in French, means literary and linguistic study and learning, concerned with the writings of a people as representative of its thought, style, culture, and art. 'Philology,' without qualification, has reference to such inquiries in general, while in the case of a special language and its literature we employ the terms 'Greek Philology,' 'German Philology,' and the like.   It is to be regretted that in England there should be so strong a disposition to shift the meaning of this useful word to that of the science of language as above defined.   It happens, however, that scientific investigation into language in general was first set on foot by 'philologers' in the older and more correct sense, and in particular by students of Greek and Latin philology.   Inquiries into these particular languages led to inquiries into their relationships with others, to comparisons of structures and vocabularies, and thence to researches into the principles of language in general   'Philology,' it was considered, thus became 'Comparative,' by including in its survey, for purposes of comparison, whole numbers of languages, instead of regarding only a particular speech. Unfortunately, the scope and aim of the new study were not identical with the scope and aim of 'philology' when applied, as above described, to Greek, Latin, or any other individual tongue and its literature.

Properly speaking, the epithet 'Comparative' accompanying the name of a science is pleonastic.   All truly scientific investigation must be comparative.   Says E. Scherer, "Science is made up of general facts; scientific knowledge is the formation of groups and the establishment of laws; it elicits the general out of the particular"   The study of some special language, such as Latin or Hindustani, can

teach us little or nothing concerning the laws and operations of language at large, and, on the other hand, our knowledge of the special language, Latin or Hindustani, itself is but empirical and relatively unintelligent, unless we are in a position to relate its phenomena to those of other tongues, and so refer them with some certainty to their causes.   To take a given language——English for example——as it now exists, and register its grammatical forms and conditions, is the business of purely *descriptive* grammar   To collect its forms and conditions as they are discoverable at different dates (as, for instance, in the days of Spenser, then of Chaucer, and earlier still), and register their successive changes, is the work of *historical* grammar.   The latter process is manifestly 'comparative' in a certain sense, inasmuch as it involves the comparison of one stage of a language with another stage of the same   Historical grammar of individual tongues manifestly plays a necessary part in the science of language.   Conventionally, however, 'comparative' study of language is understood to be rather the study of languages side by side.   It is not, indeed, always easy to separate the processes   Thus the historical grammar of French carries us back step by step to Latin, which is in reality the earlier shape, rather than the 'parent,' of French   Yet, conventionally and practically, Latin and French are languages so different that they are proper objects of 'comparative' grammar in the larger sense. This wider comparison is compelled to step in when the 'historical' grammar of a language has exhausted its material and done its work.

In studying a particular language we find an idiom or form of such and such a nature.   How it came to exist in that shape can only be gathered from a comparison, first, with the language at an earlier stage, then, if that process is insufficient (as it very commonly is), with the forms and idioms of kindred languages.   Attempts to explain such phenomena by ingenious guesswork, or by the application of what the explainer is pleased to call logic, are most

frequently disastrous.   In old French the nominative singular of *mur* was *murs*, while the plural was *mur*.   In modern French the case is reversed   The explanation is to be found, not in a study of French alone, but in a comparison with the Latin from which it came   In Latin the nominative singular is *mūrus* (which became pronounced in France as *murs*), and the nominative plural is *mūrī* (pronounced in France as *mur*)   Meanwhile the accusative singular is *mūrum*, and this was pronounced *mur* in France, the plural being *mūrōs*, which became *murs* in Franco-Roman mouths. We thus obtain the following scheme for early French, viz —

Nominative Sing *murs* (= mūrus).   Plur. *mur* (= mūrī)
Accusative Sing *mur* (= mūrum).   Plur. *murs* (= mūrōs)

Next it happened that, through the greater frequency with which the accusative forms were used, the French adopted that one case throughout the singular and also that one case throughout the plural   The nominatives having thus disappeared, we are met by a singular and plural form, strictly accusatives, which wrongly appear to be a merely arbitrary reversal of those previously used.   Again, in French the past participle is made to agree with the object when the object precedes, though not when it follows.   Thus it is correct to say *j'ai vu la femme,* but *la femme que j'ai vue.*   That this rule is only artificially maintained and often violated is shown by the grammatical concessions authorised in the year 1900 by the French Minister of Education   It might possibly be fancied that the distinction originated in some inconsistent refinement on the part of early literary authorities in France.   Unhappily for this theory we find precisely the same phenomenon in the sister language, Italian, which says *ho veduto la donna,* but *la donna che ho veduta.*   Obviously the French idiom is no mere caprice of the French, but its origin must be sought in the late Latin, which was the common parent of both French and Italian. The same cautious comparative method of inquiry is every-where necessary.   From modern English we go back step

by step to Anglo-Saxon , this done, our understanding is checked, until we venture afield into a comparison with German and the other Teutonic speeches, and in particular with the oldest extant form of such a speech, the Gothic. These kindred tongues having yielded their quota of information and enlightenment, we proceed to a further comparison with other languages, still related, but in a less close degree, such as Latin, Greek, and Sanskrit. In this way we are carried nearer and nearer to common sources of form and idiom   Nevertheless what we are so far discovering is but the principles and methods of one particular family of languages, the Indo-European. To deduce principles of language in general, and to speculate rationally upon its primeval origins, demand a yet wider comparison of family with family and of types the most divergent.

Whatever name may be given to the science (and Glottology is perhaps superior to any other), its processes must vindicate their claim to be called scientific. This truth has been recognised but recently   Though there is not only room, but necessity, for hypotheses and speculation, these must be based upon an ample collection and cautious classification of material. The hypotheses so propounded must also submit to the test of every new example. General principles of language are not to be deduced from a few particular instances , languages are not to be declared akin in virtue of a few superficial resemblances of vocabulary, however curious or striking ; etymologies or derivations of words are not to be determined by guesswork, however specious   Before accepting an etymology, for example, it is necessary to examine it, not in the light of apparent probability or plausibility, but with critical application of rule and method. Thus the word must be traced back to its earliest ascertainable form and use within the history of the language , its cognates in other tongues must be found, not from exterior resemblance, but by the application of certain laws of correspondence which have been discovered for the

languages in question   Few would hesitate to declare that
sorry is 'obviously' the adjective of *sorrow*   In actual use
it has indeed long served that purpose   Nevertheless the
etymologies of the two words are distinct   *Sorry* is the
Anglo-Saxon *sārīg* ('sore'), while *sorrow* represents *sorg*
('care')   In Guatemalan Indian *popol* means 'public,' and
it might easily be fancied that the word is akin to, or
borrowed from, the Latin *populus* ('the people'). Inquiry,
however, shows that *popol* is simply derived from *pop*, the
common 'mat' of the assembled company. The Greek
θεός (*theos*), 'God,' is identical in meaning with the very
similar word *deus* in Latin.   Nevertheless the scientific
etymologists wholly refuse to connect the two   In the
multitude of words which form the vocabularies of two
languages it is not surprising that there should accidentally
occur one or two close coincidences. The marvel would
rather be if it were otherwise.[1]   The Greek for *call* is
καλεῖν (*kal-ein*), but the English word is neither derived
from the Greek nor in any way akin to it. The Aztec
Indian for 'temple' was *teōcallī*, but any one who chose to
connect this with the Greek words θεοῦ καλιά (*theou kalia*),
'hut of a god,' would be finding a mare's nest. This
rigorous attitude towards language is comparatively recent.
The absurdities once committed by misplaced ingenuity in
its attempts to relate English to Hebrew or Hebrew to
Greek, as well as in the etymologies of individual words,
will be better considered when we come to deal with

---

[1] Much absurdity is occasionally perpetrated by persons untrained in the science,
who are struck by the purely accidental resemblance or even identity which two
entirely unconnected languages may happen to exhibit in some word or other.
Thus the chance correspondence in both sound and sense between the Polynesian
word *mati*, 'eye,' and the modern Greek *mati*, is enough to set them speculating
upon a probable unity of origin of the languages concerned, although no further
support whatever for such an idle notion can be found in either the vocabularies
or the structures of those tongues. Instead of reflecting that, among the infinite
number of words constructed by human beings out of comparatively few elemental
sounds, the wonder is that there are not more numerous examples of accidental
coincidence, they are tempted by the siren of the romantic into visionary theories
on a level with Anglo-Israelism.

the principles of etymology. There was ample justification for Voltaire's caustic remark that "etymology is a science in which the vowels count for nothing and the consonants for very little" Among examples of facile, but quite baseless, derivation, Brachet cites such French instances as those of *cordonnier* ('shoemaker') from *cordon* ('twist' or 'string'), *écuyer* ('squire' or 'rider') from Latin *equus* ('horse'). These are cases in which the empiric would and did satisfy himself that the parentage was obvious Yet in point of fact *cordonnier* was originally one who worked in *Cordovan* leather, while *écuyer* was the *scutarius* or 'shield-bearer,' and neither *cordon* nor *equus* played any part whatever in the matter.

In the development of any science there comes an inevitable partition of the field, and sections of the science, or sub-sciences, are distinguished by a special nomenclature. It is so with the science of language Language is spoken in sentences , in these the various parts bear a structural (or grammatical) relation to each other , the individual words are also formed and modified in themselves on certain principles , furthermore, each is composed of certain sounds ; and, once again, particular combinations of sounds express certain meanings. It follows that, in the investigation of language, it is necessary to treat (1) sounds, (2) word-formation, (3) syntax, (4) developments of meaning. Thus in *he sowed the seed in the field*, as compared with the Latin *sēmen in agrō sēvit* (where the root *sē* appears in each tongue), we have to consider (1) the exact relations of the sounds *sow*, *see*, and *sē* ; (2) the principles of formation shown in the various words *sow-ed, see-d, sē-men, sē-vit* , (3) the different syntactical methods of the English and Latin as shown in our use of the pronoun and article, in the absence of inflexion from our noun, and in our fixed order of the words ; (4) the development of the meaning 'sow' from the root *sē*, which originally meant 'to throw.' Add that the English word etymologically corresponding to *agrō* is

acre, which has narrowed its meaning to that of a small field of definite extent, and thence to that of a measure of area. If we further take the Greek words ἦμα ἐν τῷ ἀγρῷ ἧκε (*hēma en tōi agrōi hēke*), which are etymologically akin to the Latin, viz ἦμα (*hēma*) to *sēmen*, ἧκε (*hē-ke*) to *sē-vit*, ἐν (*en*) to *in*, and ἀγρῷ (*agrōi*) to *agrō*, we are met with (1) difference of sound (e g *hē* for *sē*, *-ma* for *-men*), (2) difference of formation (e g *-ke* instead of *-vit*), (3) difference of syntax (since *agrō* is the ablative case and *agrōi* the dative), (4) difference of meaning, inasmuch as ἦμα (which is an old and very rare word) does not mean 'seed' but 'javelin,' and ἧκε does not mean 'sowed' but 'threw.' In each case the compared languages, despite their common origin, have thus come to diverge in four respects. Corresponding respectively to these four heads we have the four divisions of the science, namely, *Phonology* (Greek *phōnē*, 'sound'), *Morphology* (Greek *morphē*, 'shape'), *Comparative Syntax*, and *Semasiology* (Greek *sēmasiā*, 'meaning'). The last is often incorrectly styled *Sematology*

Phonology treats of the sounds used in speech, their physical production, and their modifications, whether singly or in combination. *Morphology* treats of the formation of words by the union of their several constituent parts, and therefore particularly with the modifications involved in what is known as declension or conjugation, or, more comprehensively, as accidence. *Comparative Syntax* next discusses the manner in which such words, being thus formed, are arranged and related to each other in order to form sentences expressive of complete thoughts *Semasiology* is concerned with the changes and development of meanings, and should include in its ultimate aim the discussion of the way in which the earliest meanings came to be attached to words. At present no very great progress can be said to have been made in this domain, beyond the collection of the histories of individual words. The subject is psychologically very intricate, the shifting of meaning having often depended on some subtle association of ideas to which it is now hard

or impossible to find the clue. The evolution is sufficiently clear in cases like those of Latin *tectum* ('roof'), *tēgula* ('tile'), English *thatch* (a 'roof' of a certain material), *deck* (a word of Low German for the 'roof' or 'covering' of a ship)—all derived from the root *teg*, 'to cover' But it might easily have been lost in *codify* or *contemplate* The connection of *codify* with the Latin *cōdex*, 'a piece of wood,' could hardly have been divined, and, if in some way divined, it would have been easy to misconceive the steps in the progress of the meaning. We happen to know that wood was used as material to be written upon, and the meanings 'wooden tablet,' 'writing tablet,' 'book,' and then 'book of laws' in particular, are unequivocally traceable thereto. The connection between *library* and the Latin *liber* ('bark') is known, but, if not known, it could scarcely now be guessed.[1]

It will be observed that the term *Etymology* has not been used as the name of any one of these divisions. By some the word is applied to that part of Morphology (as above defined) which is concerned with the derivation and composition of 'word-stems' from 'roots,' while the name 'morphology' is restricted to the study of the terminational modifications or flexions. Thus, in this acceptation, etymology would deal with the construction of 'themes' or 'bases,' but Morphology with the varying verb and noun terminations. In the Latin *sapientissimus* ('wisest') Etymology would be concerned with the putting together of the elements *sap-i-ent-is-s-imu-*, while Morphology would deal with the variable inflexions *-s*, *-m*, *-ō*, etc., which belong to the declension of that word It should be obvious that this distinction is quite irrational, and, inasmuch as it is not recognised in English usage, we need make no further reference to it The New English Dictionary excellently defines etymology as "the process of tracing out and describing the elements of a word, with their modifications of form and sense," while the etymology of a particular word consists of

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[1] The relationship of *book* to *beech* is dubious.

"the facts relating to the formation or derivation of that word" Etymology is thus a *process* of retracing certain facts which are gathered from phonology, morphology, and semasiology combined The etymology of a given word is a discovery which results from the knowledge obtained from all these departments Etymology is thus not a division of Comparative Philology, but an application of its teachings

From an ideal point of view the material necessary for the perfect satisfaction of the science would, as Paul remarks, consist of "all the groups of sound ever spoken or represented, together with the associated ideas of which they are the symbols" Such a complete chain of the facts it is, however, impossible to obtain. For perfection of knowledge we must hear the sounds themselves, since language proper is sound, not writing. But sound, once uttered, has no continuance ; its representation in writing is inadequate and often misleading ; and in any case the record only dates from comparatively recent times. It is with the data of language somewhat as with the imperfect data of evolution in biology But, whereas palæontology can restore many lost links, such as the *mesohippus* in the history of the horse, or the toothed birds, a palæontology of language in this sense has practically no existence. The hieroglyphs, cuneiform inscriptions, and the like are, so far as they are strictly decipherable, nothing less than cultivated speeches of no very ancient date, and can therefore only be put side by side with such languages as Sanskrit and the oldest Chinese. The whole field of known languages, living and dead, supplies us indeed with a view of related languages differently modified and in different stages of development, but the origins and rudimentary forms of language are lost for ever, or are only hypothetically recoverable by induction. Moreover, amid the older languages known to us there existed many others which are completely lost, or of which only the faintest traces remain. What light these might have thrown upon the speeches for which we do possess

data, we cannot now say. Nor even in the case of existing records can we by any means be certain that in all cases we are attaching the right sounds and the exact significations to the material before us We are, for instance, uncertain of the exact pronunciation of many sounds in the Greek of classical Athens, and its accentuation (which is a matter of great importance in linguistic history) is still something of a puzzle. Again, the written language has never been an exact record of the language of the street, whether in respect of pronunciation, of vocabulary, or of grammar The material of the glottologist is therefore both recent and otherwise defective It consists of the sounds, expressive of ideas, uttered throughout the world at the present day, and of the written symbols for such sounds which are anywhere discoverable from the past. It is therefore futile to expect a complete solution of all the questions which can be asked concerning language

Yet even this material is manifestly too vast for any individual to cope with A hundredfold Mezzofanti would still fall short of being a universal linguist Here, as in other sciences, there must be a division of labour. Some students will investigate in one field, such as among the languages of South Africa or of Polynesia , some in another, such as among the classical tongues or the monosyllabic speeches of the Far East. The specialist workers will thus collect the data, discovering the facts and laws of particular languages ; and upon these another class of students, content to deal with types, will build classifications with a view to deducing general laws and constructing general theories. The man of scientific habit, who generalises upon the collections made from a wide area of languages of different families and structures, is more to be trusted in respect of linguistic principles than the specialist, however deeply learned, who confines himself to the minute study of a special language or of one or two related tongues The former, in fact, is the glottologist, or 'comparative philologist.'

CHAPTER II

PHONOLOGY

The Production of Speech-Sounds

LANGUAGE proper consists of *sounds* possessed of meaning
It is true that such sounds have in most languages been
reduced to certain symbols which constitute writing, and by
which, though they have always been inadequate from a
phonetic point of view, a *meaning* may be communicated
almost[1] as perfectly to the eye as by actual speech to the
ear. Nevertheless writing is in its origin, and for the most
part in its actual use, a makeshift for speaking, and no one
is likely to suppose that it can claim equality with the spoken
sounds as representing 'language.' The older school of
philologists were too apt to confine their investigations to
written records instead of paying primary attention to the
living speech , and it can hardly be said that the error is
even now extinct. Where the dead symbols are all that
remains of a language it is for students to base upon them
such conclusions as that material warrants ; but it is self-
evident that a real and thorough knowledge of either the
phonology or the grammar of a language (in the proper
sense of that term) at any moment can only be derived from
hearing the exact sounds and marking the exact uses cur-
rent among the representative generality of its speakers.
Literature artificially narrows the grammatical range actually

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[1] But not quite The exact tone and the degree of emphasis can hardly be so
expressed

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enjoyed by a living tongue It gives an appearance of greater uniformity and syntactical consistency than ever exists in the language as practically spoken at the moment In a still larger measure does it fail to reproduce the language as it is pronounced and heard. In the first place the alphabetical symbols, as hitherto employed, are in every language altogether insufficient to represent the subtle differences and *liaisons* which are recognised as belonging to the spoken sounds. In the second, no two persons who speak the same language pronounce all the sounds of their words in precisely the same manner. Suppose we admit the possibility of constructing and employing a series of phonetic symbols comprehensive enough to reproduce every shade of vowel-quality, every nicety of consonantal articulation, and every degree of stress or kind of tone , it would follow that, if each speaker applied those symbols with precision when representing his own speech in writing, there would never be entire agreement between any two writers of a given tongue. No two Englishmen, however equal their educational and social equipment, give an exactly identical articulation to the sound-elements of their conversation. Writing, therefore, according to a rigidly scientific method, they would diverge more or less widely in their 'orthography'

We are apt to think of Latin, for example, as spoken by a large community of men who all alike articulated simply and exactly those well-defined sounds which we have learned to attribute to the twenty-three symbols of the Latin alphabet The student of language must resist that illusion. As in Italian the signs *e* and *o*, in English *a* and *u*, in German *g* and *ch* are possessed of more than one value, so in Latin there are signs which did not mean the same thing in all circumstances. We are not in a position to discover precisely how many or of what description those different values were. Moreover, every speaker of Latin, even from physical reasons alone, differed from his neighbours in this or that respect of his articulation ; and thus, in point of its sounds, the living Latin language, which became the parent of

the Neo-Latin tongues, was nothing else than the average result of the individual pronunciations naturally employed in everyday life by speakers throughout the linguistic area. Latin orthography, at the time when it was established, no doubt aimed at reproducing the recognised average as nearly as possible by means of its alphabetical symbols These, however, were insufficient for their purpose, even when first borrowed from Greece At a later date the orthography, having become fixed, ignored the established changes in pronunciation, as it has done to a much greater extent in French (for example, in the sounds represented by such misleading symbols as *oi*, *au*, *eu*, *ai*, *u*, and in the case of the *e* mute, the silent final *t*, *s*, *p*, etc), still more in English, and in some degree in all languages with a literary cultivation

As no two individuals utter identical sounds, so in no case do the speakers of two consecutive generations agree in all respects in that 'average' articulation which forms the orthodox pronunciation for the time being.   What is merely an occasional pronunciation of a vowel or consonant in one generation, may become a frequent pronunciation of the second and the customary pronunciation of the third, and may subsequently itself pass gradually away in favour of some new development   From these considerations it results that, inasmuch as variations of this kind are in constant growth, the language as written according to any con-ventionally orthodox spelling can never absolutely correspond to the language as really spoken   If a phonetic spelling fairly represented the average articulation recognised in a particular half-century, it would require some modifications for the next half, others for the next, and so forth.   Such a chronological series of spellings would have formed a most useful chain of records for the student, if it had ever existed. But a phonetic spelling could not entirely arrest the changes of pronunciation themselves, inasmuch as those changes are for the most part due to physiological reasons.   Psychology, as represented in the working of the analogical instinct, no doubt plays an occasional part, as, for instance, when the

accentuation of a word in English tends to shift towards the earliest possible syllable, *e g* in 'blásphemous,' 'bálcony,' for 'blasphémous,' 'balcóny.' No doubt also, with existing orthographies, changes of pronunciation now and then occur over partial areas, and may thence become general, through deliberate, though misguided, attempts at accommodating the sound to the spelling instead of the spelling to the sound. Thus the spelling is responsible for the modern pronunciations of 'oblige,' , gold,' 'tea,' 'Rome,' 'herb,' in place of the old 'obleege,' 'goold,' 'tay,' 'Room,' 'erb.' Similarly the spelling 'again' is apparently bringing back into wide use a corresponding pronunciation, in place of the common 'agen' It would not be easy to determine the precise extent to which these influences affect articulation , they are certainly increasing with popular education , but it is quite certain that their effect is, or has been, small compared with the result of causes purely physical. The changes of Latin pronunciation into Italian or French, or of Anglo-Saxon into English, were brought about by speakers who for the most part knew nothing of spelling, and were therefore saved from an influence which may leave its trace here and there upon the utterance of moderns

The divergence of individual from individual and of generation from generation, in the treatment of a particular sound, is mainly due to two kindred causes of a *physical* nature —

(i) The natural difference of formation and flexibility of the articulating organs of different individuals.

(ii) The near resemblances between the positions and movements to be adopted by the articulating organs when producing one sound and those to be adopted by them when producing another.

Add the consideration that pronunciation tends to follow the line of least effort, and that the individual is only prevented from unconsciously indulging his own ease and convenience by the necessity of making himself understood,

and by the disadvantages of appearing singular, and we deduce the following propositions —

(1) Though all the individuals of a linguistic community may deliberately aim at producing a certain sound, many will find it naturally difficult to produce exactly that sound (though they will often be unconscious of their own defect), others will find it actually impossible ; and while the latter can but utter the nearest sound of which they are capable, the former also will lapse into the easiest approximate sound, unless there are disadvantages in the proceeding sufficiently serious to compel them to make an effort at each time of utterance

(2) Where nicety of pronunciation is not critically considered and remarked upon, the effort to be exact will tend to relax in all cases where any physical difficulty is present

(3) Even where there is no physical inability or defect on the part of the speaker, haste, indolence, or inattention will often lead to inexact operations of the articulating organs, and therefore to the substitution of an approximate sound in place of the one which serves as the standard for the time being , and here again there will be no check upon such deviations, except the necessity of remaining intelligible or the desire to avoid unpleasant results of singularity.

It is obvious, then, that in order to understand the phonetic metamorphoses which language perpetually and of necessity undergoes, speech must be considered first and foremost on its physical side

The Mechanism of Speech

In ordinary breathing the air which has been inhaled into the lungs is again expelled by the retraction of the muscles of the thorax and abdomen. It rises through the bronchi and the trachea (or windpipe) to the larynx, where it passes between the two membranes known as the vocal chords, but without interference on the part of those membranes. It

then issues into the pharynx, and passes out by way of the mouth or the nasal passages, without interference through intentional muscular action of throat, tongue, palate, or lips at any point in its progress   Unless the breathing is for some cause or other rendered unusually violent, or unless there exists some abnormal obstruction (as in the case of a cold), the sound which results is inconsiderable, or, so far as it is appreciable, is produced simply by the natural friction of the current of air against the sides of the passage as a whole.   The more violent the breathing, or the more obstructed the passage, the greater is the friction and the more distinct the noise

To turn breathing into speech is simply to put into exercise various muscular powers at various points of the expiratory apparatus.   The departure of the air from the lungs is no longer in the form of slow and effortless streams, but takes the shape of a succession of short currents expelled with more or less force   These pass over the edges of the two membranes above mentioned, which (according to the nature of the sound to be produced) may meanwhile either be drawn towards each other by muscular tension and made to vibrate, or may remain open and flaccid   The first determination of a sound as an element of speech is made at this point and in this way.   Next, after leaving the glottis, the current of air is subject to modifications of the finest and most complicated descriptions, by the action of the muscles of the throat, tongue, soft palate, under-jaw, lips, and cheeks. By these agencies the sound-passage during speech is continually shortened, lengthened, closed, or narrowed into a most subtle variety of shapes and with the greatest rapidity. Thanks to the investigations of physiologists like Brücke and Helmholtz, assisted by the laryngoscope, and of phonetic philologists like Ellis, Sweet, Sievers, etc., the operations involved in speech and the special characters differentiating the several classes of speech-sounds have been ascertained to a high degree of scientific precision.

The following diagram may be taken as representing

roughly the positions of the organs of speech in a state of rest —
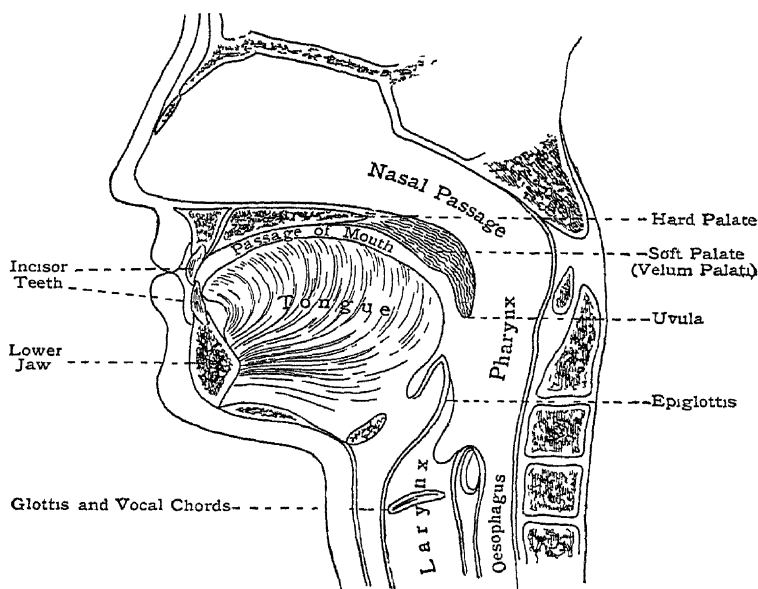
FIG. 1

In the above figure the head and neck are represented in section from back to front, the lips are closed, the nasal passage being left open for breathing The tongue lies in its natural position, the muscles of the pharynx are at rest, while the glottis is left open and without muscular tension

It may be as well, without entering into unnecessary detail, to say something of the constitution and action of each of the several organs employed in the conversion of the stream of breath into speech.

(*a*) **The Larynx, Glottis, and Vocal Chords.**—The **larynx** is a species of cartilaginous box, composing the upper part of the windpipe (or trachea).   Of the enclosing cartilages those known as the *thyreoid*, or *thyroid* (the front and side walls, recognisable from the exterior as the ' Adam's apple '), the *cricoid* (a horizontal ring), and the two *arytaenoid* (the upper part of the back wall) are employed in varying the form of the hollow of the larynx, which may be widened,

narrowed, lifted,[1] or lowered by muscular action.   Within
the box of the larynx, somewhat above the middle, is the
glottis, a kind of doorway into the windpipe, formed by
two folds of mucous membrane attached to the back of the
thyreoid and to the front projections of the arytaenoid
cartilages   The cleft between them extends from back to
front, not from right to left.   These membranes, the **vocal
chords,** are elastic, and by muscular action may be stretched
with various degrees of tension or relaxed   The vulgar
notion that they are ' cords ' or strings is altogether incorrect
Rather they resemble two curtains, capable of being brought
together or drawn apart, or, as Max Muller expresses it, they
are " like the parchment of a drum split in the middle."
The average length of the cleft in men changes from
19 millimetres (or nearly $\frac{3}{4}$ of an inch) when relaxed to
25 millimetres (or about an inch) when stretched   In
women the corresponding extremes average 14 and 17 milli-
metres respectively.

Above the glottis, and forming a kind of lid to the
larynx, is the slender heart-shaped or leaf-shaped cartilage
known as the *epiglottis.*   Normally the epiglottis stands
almost erect behind and below the back of the tongue,
leaving the larynx open for breathing purposes.   When the
larynx is threatened with the intrusion of foreign matter, the
epiglottis falls and closes the aperture   During the act of
swallowing it is for the most part sufficient that it should
incline far enough to act as a ' shoot '

(*b*) The muscles of the **pharynx** act in combination
with movements of the larynx, tongue, and soft palate
to modify the shape of the passage by which the sound is
individualised.

(*c*) **The Hard Palate, Soft Palate, Uvula, and Nasal
Passages.**—The roof of the mouth consists of two parts, the
front portion being an arched plate of bone covered with
mucous membrane and called the *hard palate*, while the
hinder part, called the *soft palate* or *velum palati*, is a flexible

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[1] This can be felt by placing the finger upon the larynx while speaking.

curtain composed of muscular and cellular tissue At the middle of its rear or free edge the velum tapers into the *uvula*, which in a state of rest hangs towards the root of the tongue The soft palate is provided with muscles, by means of which it can be raised or stretched The uvula also possesses a muscle which lifts or drops it as occasion requires

Behind the uvula and the upper fold of the velum is a passage leading to the *nasal cavities*, and, during speech, it is a function of the soft palate and the uvula, acting by their proper muscles, to regulate the use which shall be made of the nasal channel They may rise and block it entirely, or narrow it, or fall and leave it free

(*d*) **The Tongue** —The **tongue**, which plays the most important part in speech, is fixed only at its root or lower side, where it is attached to the hyoid bone and the floor of the mouth For the rest it is capable of adopting an altogether indefinite number of positions, in virtue of an extraordinary endowment of muscles, by which its whole surface is bent upwards or downwards, made broad or convex, or its tip is carried to or towards any point of the teeth, gums, or hard palate, so that the oral passage is widened, narrowed, or wholly closed at various points beneath the roof of the mouth.

(*e*) *The lips* —The lips are provided with muscles which draw them back, shoot them forward, bring them together, or open them It is necessary, for instance, in the production of some sounds to close the lips, in others to round them, in others to bring the lower lip into contact with the upper teeth Sometimes the lips are required to assist in lengthening the sound-passage, sometimes in shortening it

(*f*) The *lower jaw* performs a sufficiently obvious part in widening or narrowing the passage as a whole and providing room for the necessary play of the organs at different degrees of effort.

Sounds in Detail

Voice, Pitch, Stress, and Production of the Vowels —It has already been said that while the organs, as above described, are at rest (in the 'indifferent' position) and only ordinary breathing is in progress, there is no appreciable sound, whether the mouth be open or shut. The sounds of speech are produced by certain efforts and muscular actions at certain points and in certain ways. For the vowels and several of the consonants the first operation of muscular activity consists in the vibration of the vocal chords.

The vibration in question takes place thus. The two ligaments are drawn closely together from the sides of the glottis, and the ascending stream of air, in forcing its way through the cleft between, pushes them upwards and slightly apart, they then fall back with a consistent rapidity (many times a second) to the same position, to be as rapidly and regularly driven upward. They act, in short, like the metallic 'tongue' in certain wind-instruments under a given pressure of air, and in the same way communicate a regular, or 'isochronous,' vibration to the air-stream as it passes through them. It is these vibrations which constitute 'voice,' and a sound is said to possess 'voice' or 'tone' only when the vocal chords have been so employed in its production. Some of the *consonants*, it will be found, are mere 'noises,' produced by friction or 'explosion' elsewhere in the vocal passage, and these do not demand a vibration of the vocal chords. They have merely 'breath,' not 'voice,' and are therefore known as 'voiceless.'

In the case of sounds with 'voice' the stream of air is modified at the vocal chords as in the following diagram :— -

Breath from lungs _{vocal chords} | air with wave-movement

——— — ---- → | - →(to oral passage)

| or 'tone'
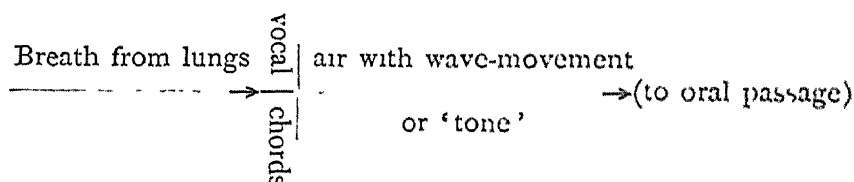
while for the 'unvoiced' sounds the corresponding representation is—

Breath from lungs vocal | air without
————————→- | ————————→(to oral passage)
chords | 'tone'
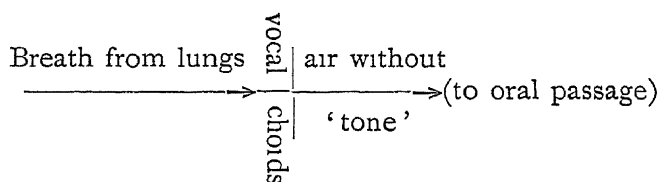
Apart from the question of the *duration* of a special sound, *i e* the time during which it is prolonged, the vibrations imparted to the stream of air in producing a vowel may be so varied as to characterise it in three distinct ways .—

(1) They may differ in *rate*, *i.e.* in the number of vibrations which may be made to take place in a given time.[1] The result is a difference, not of the vowel produced, but of the *pitch* (or 'height') at which the sound is delivered   The quicker the vibration, the shorter the wave of air and the shriller the sound.   What is called 'sing-song' speaking is the effect of a strong tendency to variation of pitch, or 'pitch-accent'[2]   Since a shorter chord under the same conditions vibrates more rapidly than a longer one, the different lengths of the vocal chords in men and women produce the familiar difference in the pitch of their voices.

(2) They may differ in *amplitude*, the vibration being regarded as a wave, and the amplitude being the relative height of the wave from crest to trough.   Thus in the waves A and B—
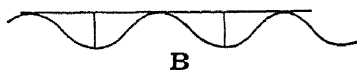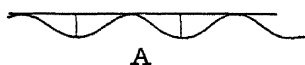
their comparative amplitude is expressed by the vertical lines.   The result is a difference of loudness, strength, intensity, or *stress*.   Thus a sound is pronounced *piano* or *forte* (*i.e.* without or with stress) in proportion as the energy of expiration creates a smaller or greater swing of the chords,

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[1] This is determined by the shortening or lengthening of the chords during utterance.

[2] Also called 'tonic,' 'musical,' or 'chromatic' accent

and therefore amplitude in the vibrations   Stress-accent[1] is
of the greatest importance in the history of language

(3) They may differ in *form* (i e in the shape of the
wave-line)   With the same pitch and the same stress the
sound may assume different 'qualities' (or *timbres*) in
consequence of different shapes adopted by the resonance-
chamber, *i.e* the oral passage, through which the vibrating
air is made to pass   Thus a sound-wave of the form—

may, without variation of its rapidity ('pitch') or its
amplitude ('strength'), be altered by the configuration
adopted by the mouth-passage into the shape—

and so become invested with a very different timbre.[2]   The
whole series of vowels are thus determined.   So far as the
vocal chords are concerned their production is the same
The difference between *a, c, i, o, u,* (i e *ah, eh, ee, o, oo*), and
an entirely indefinite number of others, is simply this
difference of quality, caused by the special configurations

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[1] Also called 'expiratory' or 'dynamic' accent.

[2] In music the same note, produced with the same number and amplitude of
vibrations, will differ in 'quality' according to the shape, material, etc , of the
instrument upon which it is sounded   Thus the note C possesses a special
character according as it proceeds from a violin, piano, clarionet, or organ   The
reason of the dissimilarity is the difference in the *form* of the vibrations, a
difference which causes to be brought out in connection with the 'prime' or
'fundamental' note a different set of 'by-tones,' 'overtones,' or 'harmonics' in
the several cases.   Any tone (other than that produced by pendulum), though
apparently simple, is resolvable into a number of 'partials,' i e. a predominant
combined with accessory tones or 'harmonics.'   These accessory tones belong to
the vibrations of parts, which go with vibrations of the whole, and are in some
degree perceptible to the trained listener

In speech the prime tone which is imparted by the vocal chords may have its
possible overtones variously brought out and accentuated by various lengths and
shapes into which the mouth, tongue, palate, lips, etc., alter the resonance-
chamber   Each such shape 'reflects' different waves, and the reflected waves
cause an interference with the shape of the incoming vibration. |

adopted by the resonance-chamber of pharynx, mouth, and nose.

Theoretically the number of possible vowel-sounds would thus appear to be unlimited In practice, however, language can make no use of infinitesimal shades of difference which would be too fine for the ear to catch , and though the fairly distinguishable vowel-sounds, if adequately collected and registered from all existing languages and dialects, would make a formidable list, the philologist will hardly seek to go beyond the " thirty-six elementary vowels" which Mr. Sweet gives as the result of the multiplication of 3 'heights' of tongue with 3 points of 'narrowing,' 2 'widths' of tongue, and 2 qualities of 'rounding.'

Thus if, while the vibrating air passes through the oral passage, the tongue lies in its natural position of rest, and the lips are simply held open (*i e* without muscular exertion to push them forward or draw them back), the soft palate being meanwhile raised towards the back wall of the pharynx,— in other words, if the sound is allowed to pass out through a channel shaped as in Fig 2, the result is the 'indeterminate' vowel *ə* (written variously, *e g* the second *a* in *Martha*)
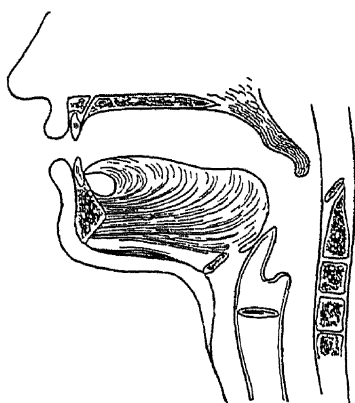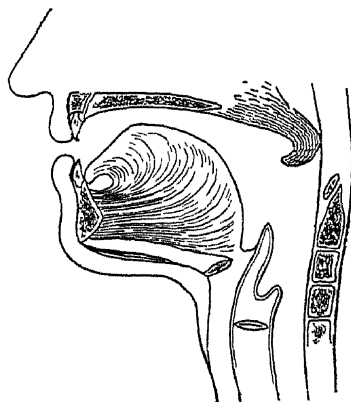

FIG 2   FIG 3

If, on the contrary, the larynx is lifted, the lips and corners of the mouth retracted, and the tongue lifted nearly to the palate as in Fig 3, so that the *shortest* possible resonance-

chamber is created, combined with the greatest narrowing employed for vowels, the result is *i* as in *sit*.

If, again, the larynx is drawn downwards, and the lips pushed forward and rounded, so that the *longest* possible chamber is created, and if this is modified in shape by an elevation of the tongue toward the soft palate and by a narrowing of the lips, the result is *u* (i e *oo*, like the *u* in 'rude')

If, while the lips are thus pushed forward and rounded, the larynx is raised instead of dropped, the result is *u* (i e the 'modified' or French *u*, which is a compromise between *i* and *u* as described above)

A full description of the manner of production of each of the more common vowel-sounds is unnecessary, even if it could be made exact. They vary with the degrees of elevation and convexity of the tongue, with the point of narrowing, and with the degree of rounding by means of lips and cheeks. With a slight simplification of the place-element in Mr. Sweet's classification of the thirty-six 'elementary vowels,' we may divide as follows :—

> (A)—*High*, *mid*, or *low*, according to the degree in which the tongue is raised. (See the figures for *ə* and *i* above)
>
> (B)—(1) *Back* (or *velar*, less properly *guttural*), when the back of the tongue approaches the soft palate, as in *a*, *o*,[1] *u*.[1]
>
> (2) *Front* (or *palatal*), when the surface of the tongue approaches the roof of the mouth, as in *e*, *i*, *u*.
>
> (C)—*Narrow* or *wide*, according as the tongue is kept broad and flat or made narrow and convex. Thus *a* (*ah*) is wide, while *u* in 'cup' is narrow.
>
> (D)—*Rounded* or *unrounded*, according to the action of the lips and cheeks implied in those terms. Thus

---

[1] It should be remarked, however, that, because of the rounding of the lips in *u* and *o*, these vowels are also equally classed as *labial*.

u shows the greatest degree of rounding, *o* less, *a* least.

The complete technical description of a vowel embraces a reference to each of these divisions. For instance—

aw (in 'law' = *a* in 'ball') is	low-back-narrow-rounded
a (in 'father')	,, mid-back-wide-unrounded
u (in French *lune*)	,, high-front-narrow-rounded
i (in 'sit')	,, high-front-narrow-unrounded.

a (*ah*) being the clear fundamental tone, *i.e* the most natural and least modified of the distinct vowels , *i* being the 'highest,' with shortest passage ; and *u* the most rounded, with longest passage , we get *a, i, u* as the three 'prime' or typical vowels. If we arrange these as a triangle

(Highest) *i*   *u* (most rounded)
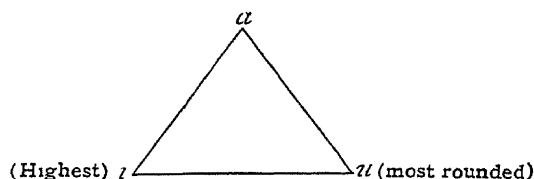
we may represent all others, however numerous, as intermediate. Thus, to choose only the more salient examples *e* (*ay*), *o* (as in the German *schön*), *o, u*, the arrangement
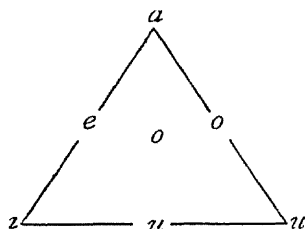
will sufficiently indicate their respective degrees of height and rounding

The Neutral Vowel —Besides such distinct vowel-sounds as those recognised, for example, in the English words 'father,' 'man,' 'ball,' 'get,' 'bit,' 'got,' 'rude,' 'bull,' 'cup,' etc., there exists, as has been seen, an indeterminate, indistinct, or *neutral* vowel, heard in unaccentuated syllables, *eg.* in 'among,' 'at home,' 'atone,' 'attempt,' 'vehement,'

'together,' 'phenomen*a*.' The same sound attaches to the '*e* mute' of French, when, as read in verse,[1] it ceases to be mute, as well as to the old English final *e* in the Chaucerian 'fressch*e* flowr*es*' It is obvious that the vowel which happens to be written in such cases is not the one which is actually pronounced Though the exact nature of the sound has not usually been shown in a special symbol, it is generally held to be nearest to *e* (as in 'get'), and is therefore now conventionally written by philologists in the shape of that letter reversed, viz. ə.

The Nasalised Vowels.—So far the vowels have been treated as 'pure' vowels, *i.e.* as they are ordinarily pronounced, with the nasal passage closed If, however, the velum, or curtain of the soft palate, is allowed to drop, so that the column of air may pass behind it and vibrate in the nasal cavities, the vowel-sound acquires a quality called *nasalisation*. It is the vibration within the nose-channels, and not simply pronunciation through the nose, which imparts the quality, inasmuch as the nasalisation is stronger when the air is not allowed actually to issue through the nostrils. French supplies the best examples of nasalised vowels in the sounds which it writes, as *an* (*am*), *en* (*em*), *in* (*im*), *on* (*om*), *un* (*um*) Unfortunately this orthography suggests a combination of two distinct sounds, viz. of a vowel *a* (*e*, etc.) with a consonant *n* (*m*), and that fact is apt to prove a stumbling-block to foreigners who learn the language otherwise than by ear. Phoneticists prefer to write *ã*, *ẽ*, *ĩ*, *õ*, *ũ*, or, less well, *ạ*, *ẹ*, *ọ*, etc

The Diphthongs—If the organs of speech, after adopting the position necessary for the production of a certain vowel, pass from it into the position for another vowel, and if 'voice' is made to sound during the time occupied in the

---

[1] It is so read because till the sixteenth century it had not become mute, but was pronounced. Verse everywhere retains archaisms of both grammar and phonetics Compare the English pronunciation of 'wind' in poetry. The '*e* mute' in French is historically the general representative of various Latin vowels which equally sank to the indeterminate value.

transition, and only during that time, the result is a *diphthong*
A diphthong such as *au, ai, eu, ei*, etc, is therefore not a
combination of two vowels, but a sound which is neither one
nor the other   It may be remarked in passing that the
English *ī* (' I,' ' nice,' etc.), though written as a simple vowel,
is really a diphthong, viz *ai* , while many sounds in different
languages written as diphthongs are really simple vowels, as
in the case of ' broad,' the French au*tre* (= *ōtre*), *pour* (= *pūr*),
peur (= *pər*), etc

**Vowels and Consonants ; Sonants and Consonants ;
Semi-Vowels** — A very old division of the alphabet into
' vowels,' meaning sounds capable of being pronounced alone,
and ' consonants,' or sounds incapable of being so pronounced,
is scientifically inexact.   The sounds commonly known as
consonants are properly distinguished from the vowels above
described only by the fact that they are formed mainly,
when not wholly, in the oral and nasal passages   Whether
' voiced ' or ' breathed,' they are the result of either friction
or complete stopping of the air-stream in some part of those
passages   While it is true that, as a rule, these latter sounds
do not form syllables by themselves, and that some of them
cannot, but need the accompaniment of a vowel, in many
cases this cannot be said of elements of the alphabet which
are usually described as consonants.   Thus in English words
like ' tab*le*,' ' fath*er*,' ' ev*en*,' ' bos*om*,' in French words like
' *ar*bre,' ' *tab*le,' and in German words like *Hand*el, *Vat*er,
' *gut*en,' ' *gut*em,' the spelling disguises a fact otherwise easily
realised, namely, that the sounds actually pronounced are
respectively nothing more than ' tabl,'[1] ' fathr,'[1] ' evn,'[1]
' bosm,'[1] ' arbr,' ' gutn,' etc.   That is to say, the liquids and
nasals *l, r, m, n* are capable of forming syllables in
themselves.   In the Slavonic languages and in Sanskrit the
liquids, unaccompanied even in writing by a vowel, often
constitute distinct syllables, which may even bear the accent

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[1] This is the case when the words are pronounced in the ordinary quick
manner of conversation   Sometimes (or by some speakers) the last syllable is
rather *əl, ə* (without audible *r*), *ən, əm*

Similarly, sounds represented by *z* and *v* (in which 'voice' is employed) may be quite independent of vowel assistance. The words *was, of,* when uttered without stress, are often actually pronounced *wz* and **v**[1]   The voiced spirant *th* (pronounced as in '*th*en,' and phonetically represented by ð), may also be made audible in its own right.   With the corresponding unvoiced sounds, viz *s, f, th* (as in '*th*in,' phonetically written þ), *i.e.* where the hiss takes the place of the buzz, independence of a vowel-sound exists in a smaller degree, but is still a possibility from the continuity which may be imparted to hissing and friction of the mere air-current in the narrow passage.

It is only the 'mutes,' 'stops,' or 'explosives' (*p, t, k, b, d, g*) which are wholly consonantal[2] in the sense implied in the ordinary classification   Practically, however, it may be said that, while sounds which do not partake of voice (but which are simply 'noises' produced in the vocal passages after the unvoiced air has left the glottis) serve as consonants only, on the other hand those sounds which do partake of voice (except the voiced 'explosives,' *b, g, d*) are capable, whether they be vowels or not, of performing the function of vowels in forming syllables   Thus, in the English alphabet not only *a, e, i, o, u,* but also *z, v, l, m, n, r*—the voiced spirants and voiced liquids and nasals—are capable of syllabic value, whereas the remainder may for practical purposes be considered as entirely consonantal.

The antithesis of 'vowel' and 'consonant' being therefore unsound, it is more desirable to speak of '*sonant*' and '*consonant*,' the term *sonant* including all sounds, whether

---

[1] Sometimes it is rather *ɔv* which is heard.

[2] It appears, therefore, that Greek observation was remarkably acute, when it divided the alphabet into

    (1) φωνήεντα ('vowels').

    (2) σύμφωνα ('consonants'), including

        (i.) ἡμίφωνα ('half-sonant,' or, according to Plato, "not vowels indeed, but nevertheless not without sound"), viz. *l, m, n, r, s.*

        (ii.) ἄφωνα ('mutes'), viz. *k, t, p, g, d, b,* and the aspirates.

vowels or not, which are not serving in consonantal function
There is thus a 'sonant' *l* or *m*, as well as a 'consonant'
l or *m*   In the word *lascar* both *l* and *r* are consonants,
in the word *miserable* *r* and *l* are really sonants (the
phonesis being *mızrəbl̥*[1]).   For the philologist, convenience
dictates a distinction of spelling, and the signs *l̥*, *m̥*, *n̥*, *r̥*,
z̥, *v̥* (*i.e* the same letters with diacritical marks) have been
adopted for the sonant values, while the ordinary symbols
stand for the pure consonants.

On the other hand the vowels *ı* and *u* may acquire the
function of consonants (*y* and *w*) in virtue of a hurried or
slurred pronunciation   In this function they are called *semi-
vowels*, or *consonantal* vowels, and are written *ı̯*, *u̯*.   The
French *oui* supplies an instance of the consonantising of a
vowel by this rapidity of its articulation.

Consonants and their Classification.—The consonants
proper admit of cross-classifications according to several
principles.   They may be considered from the points of
view of (1) their *kind* of articulation, *i.e.* in respect of voice,
breath, or aspiration, (2) the degree of *openness* of the vocal
passage during their production, (3) the *place* of articulation,
i.e the point in the passage at which stopping, friction, etc,
take place.

(1) **Kind of Articulation.**—What is meant by 'voice'
has been already explained   'Breath' implies the absence
of vibration on the part of the vocal chords.   An 'aspirated'
consonant involves either breath or voice, as the case may
be, driven with energy against the hollows of the stiffened
larynx, so as to experience distinct friction.

The four possible classes of sounds are generally known
respectively as *voiced, voiceless, voiced aspirate*, and *voiceless
aspirate*.[2]

---

[1] The second syllable is more commonly syncopated, and the result is *mızrəbl̥*.

[2] Other names which are or have been in vogue for voiced sounds are 'sonant,'
'mediae,' 'soft', and for voiceless, 'surd,' 'tenues,' 'hard.'   'Soft' and 'hard'
are misleading terms.   'Sonant' and 'surd' are correct enough as meaning
respectively that which has tone and that which has no tone; but it is better to

Of the more familiar consonantal sounds the *voiced* include —

(1) *g, d, b* (*stops* or *explosives*)

(2) *z, ž* (*i e.* the sound of *s* in ' pleasure,' or the French *j*), *v, ð,* (i.e. *th* in ' then '), *ɩ* (=*y*), *ʮ* (= *w*) These are the *voiced spirants.*

(3) *l, r, m, n* (the *liquids* and *nasals,* which are voiced in most positions at least [1])

The corresponding *voiceless* sounds are —

(1) *k, t, p* (*stops* or *explosives*)

(2) *s, š* (the sound of *sh* in ' ship '), *f, þ* (i e. *th* in ' thorn ')—the *voiceless spirants*

The *aspirated* consonants, which do not occur in English, but are heard in Irish articulation, once existed in Greek, and belong to general Indo-European philology, are —

(1) The *voiced aspirates gh, dh, bh* (somewhat as in ' log*h*ouse,' ' dead*h*ead,' ' Hob*h*ouse,' but without the separation between the syllables).

(2) The *voiceless aspirates kh, th, ph* (Greek χ, θ, φ— somewhat as in ' pen*t*house,' etc.)

(2) **Degree of Openness** —For the articulation of different consonants the passage may be narrowed at various points in various degrees, until the narrowing agents are at last in actual contact. In the last case the air-stream is sometimes absolutely blocked, sometimes it is allowed an outlet, inasmuch as the contact obstructs only a portion of the available channel. Thus the lips may be closed, but the nasal passage allowed to open ; or the tongue may touch the middle of the

keep the term ' sonant ' for another purpose, viz. for sounds not consonant. ' Media ' and ' tenuis ' are translations of the Greek μέσον (' middle ') and ψιλόν (' bare,' ' thin '), as opposed to δασύ (' thick,' ' rough,' i.e. aspirated). The ' middle ' character of a media lay in the fact that there was something more than the mere breath of the tenuis, and something less of an effortful kind which marked the aspirata

[1] That the liquids are commonly voiced is indicated by the change of *d* (but not *t*) to *l* in Latin, as well as by their sonant functions. That the nasals are naturally voiced may be realised from the fact that, when a cold prevents the proper articulation of ' man,' the result is ' bad,' not ' pat ' Nevertheless voiceless nasals and liquids are met with.

palate, but may yield a space at each side (as for *l*), etc. The following operations may be distinguished [1] :—

(i) Complete blocking of both the mouth- and the nose-passage, resulting in the sounds known as ' stops,' ' explosives,' or ' mutes,' which are heard only when the contact is broken, e g *k, t, p, g, d, b,* and their aspirates

These sounds are known as *momentary*, because they cannot be prolonged , the classes which follow are *continuous*.

(ii.) Complete blocking of the mouth-channel, but subsequent opening of the nasal passage, so that the stop is evaded The result is the nasals *m, n, ng* (as in ' singer ').

(iii.) Evasions (in the mouth-channel itself) of a closure made with the tongue. The sounds produced are the ' liquids ' If the air escapes at the sides of the tongue the result is the ' lateral ' dental *l*; if the tip is allowed to yield (and generally to vibrate) while the air escapes over it, the result is *r*.

(iv) Close narrowing of the mouth-passage, a chink being left through which the air either buzzes (with ' voice ') or hisses (without ' voice ') with consequent well-marked friction The sounds produced in this case are the ' spirants ' or ' fricatives,' e g. *z, s, ź, š, v, f, ʒ, ʮ, ð, þ* Sometimes *z, s, ź, š* are called ' sibilants,' while the term ' spirants ' is restricted to the remainder

(3) **Place of Articulation.**—Theoretically, the points at which closing or narrowing may take place in the mouth-passage are quite indefinite in number, and the classification of sounds according to the particular organs and particular parts of organs concerned in the narrowing may be made

---

[1] German phoneticists call the explosives and fricatives *Geräuschlaute* and the rest (with the vowels) *Sonorlaute*

more and less elaborate.   For practical purposes it is sufficient to distinguish them according as they are formed—

(i)   At the soft palate or velum
(ii) At the hard palate
(iii) At the teeth or gums
(iv.) At the lips

These classes of sounds are known respectively as *velars*, *palatals*, *dentals*, *labials*   More precise is a further distinction between dentals proper and *alveolar dentals* (which are produced at the gums)   An old terminology by which the first two classes, viz velars and palatals, are alike designated 'gutturals' is incorrect.

(i)   **Velar Consonants** are those in the production of which the soft palate and back of the tongue are mainly concerned.   The Semitic *q*, the German *ch* in *nach*, *auch*, the Scotch *ch* in *loch*, a provincial French and the Northumbrian *r* are among the most recognisable cases.   In Indo-European philology it is usual to assume the existence in the primitive speech of a series of velar stops, now commonly written as *q*, *g*, *qh*, *gh*, the so-called 'guttural' being produced at the velum, as is the *k* in the German *Kuh*, the *g* in the French *goût*, etc.   Velar also is the nasal *ng* (usually written ŋ) in, *e g*., the German *Zunge*   The English *ng* in 'tongue,' *c* in 'come,' and *g* in 'go' are velar, but are attracted somewhat forward.

(ii.) **Palatal Consonants** are those formed by narrowing between the tongue and the hard palate.   The Semitic *k*; the English *k* in 'king,' *g* in 'give,' *y* in 'yes'; the German *ch* in *ich*; the Italian *gl* in *bottiglia*, are readily felt to be of this nature.   For primitive Indo-European a series of palatal stops is assumed, which, in opposition to the velar, are written *k̂*, *ĝ*, *k̂h*, *ĝh*.   To these is added a nasal *ñ*, as in 'think.'

When the tip of the tongue is turned back

under the hard palate, as in *š* (= *sh* in ' ship ') and *ž* (= the *s* in ' pleasure '), the sound is called *cerebral* or *cacuminal*

(iii) **Dental Consonants** are produced by the tip of the tongue touching or closely approaching the upper teeth, or, in the case of the **alveolar** dentals, the gums of the upper teeth. The latter is the case with the English dental stops *t*, *d*; the dental spirants *s*, *z*, and the linguals *l*, *r*. In German, as in some other languages, the tip of the tongue touches the teeth proper, and the dentals are true dentals The two *th*-sounds in English, þ, ð, are *interdental*. In primitive Indo-European a dental series is assumed, consisting of *t*, *d*, *th*, *dh* The corresponding nasal is *n* (as in ' thin ')

(iv) **Labial Consonants** are formed when the lips play a chief part, *e g* in *p*, *b*, *w*, and the nasal *m*. When the lower lip is brought into contact with the upper teeth and not with the upper lip, as in forming *f* and *v*, the sound is known as *labio-dental*. In primitive Indo-European the assumed series of labial stops is *p*, *b*, *ph*, *bh*, with the nasal *m*.

Parallelism.—It will be observed that, in point of place of articulation, there is a parallelism between the stops, the spirants or fricatives, and the nasals[1] Thus, corresponding to the complete labial block in *p*, *b*, come the labial narrowings and friction-sounds *w*, *f*, *v*, and the nasal

---

[1] The vowels also have their classification according to place of articulation Thus *a*, *o*, *u* are velar ; *e*, *o*, *u*, *i* are palatal , *o*, *u* are labial as well as velar It is obvious, therefore, that in the process of articulation a given consonantal sound not only goes more easily in combination with one set of consonants than with another, but also goes more easily in combination with certain vowels than with others It will consequently be found that vowels ' attract ' consonants in respect of place of articulation As it is otherwise expressed, there is a greater ' affinity ' between certain vowels and consonants than between others For instance, the velar *q* followed by the palatal *e* requires much more exertion in adjusting the positions of the articulating apparatus than is needed in the case of *k* followed by *e* In course of time the *q* may actually be ' attracted ' to *k* by the vowel

evasion *m*. The only difference between *m* and *b* consists in the fact that in the case of the former the nasal passage is opened after the closure of the lips. The respective positions for the two sounds are roughly shown in the following figures —
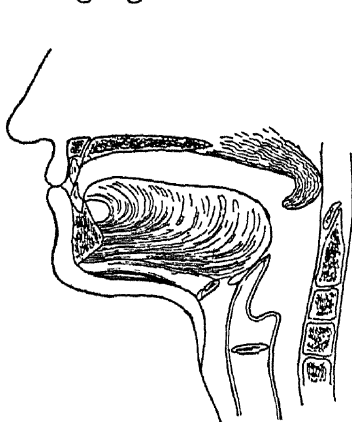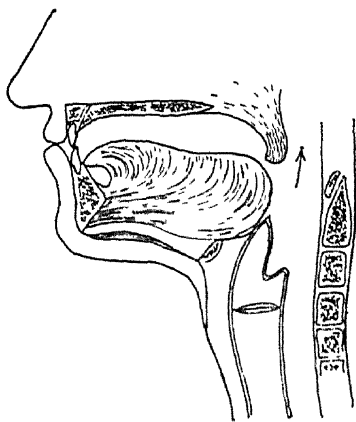
FIG 4   FIG 5

Similarly, corresponding to the complete dental stops *t*, *d*, come the nasal evasion *n* (the relation between *n* and *d* being exactly as between *m* and *b*), the spirants *þ*, *ð*, *s*, *z*, and the liquids *l*, *r*. Answering to the palatal stops *k*, *g*, etc., we have a nasal *ñ* and spirants *ch* (in German *ich*), *y*, etc. With the velar stops *q*, *g*, etc., may be placed the spirant *ch* (in 'loch') and the nasal *ŋ*

The Aspirate.—If, the mouth being open, breath without voice is expelled from the lungs with effort and made to experience distinct friction in the cavities of the stiffened larynx itself, the result is the *spiritus asper*, or so-called 'aspirate' *h*. In kind of articulation it is therefore voiceless; in point of place it is sometimes called 'faucal'

The following table may serve as affording a working synopsis of classifications of the more common elements[1] in familiar alphabets .——

[1] (1) Sounds like *ch* in 'church' (*č*) and *j* in 'judge' are not simple sounds, but consonantal diphthongs, and are pronounced as *tš*, *dž*, respectively.

(2) The symbol *r* (as in a less degree *l*) really represents different sounds in

	Velar	Palatal	Cacuminal	Alveolar	Dental	Labio-Dental	Labial
Vowels—							
Pure	u, o, a	ə, o, u, e, ı	e, ı				o, u
Nasalised	ū, õ, ã	ẽ, ı̃					õ, ũ
Nasals—							
Sonant	ŋ̥	n̥		ṇ			m̥
Consonant	ŋ	ñ		n			m
Liquids—							
Sonant				r ļ			
Consonant	Northumbr *r*	gl (Ital)		r l			
Sibilant Spirants—							
Voiced			ž (ẓ)	z (ẓ)			
Voiceless			š	s			
Spirants Proper—							
Voiced			ʝ (= y)		ð	v	ɥ(= w)
Voiceless	ch (lo*ch*)	ch (ı*ch*)			þ	f	
Stops—							
Voiced	g (*go*)	ĝ (*give*)		d (Eng)	d (Ger)		b
Voiceless	q (*come*)	k (*key*)		t (Eng.)	t (Ger)		p
Voiced Aspirate	gh	ĝh		dh			bh
Voiceless Aspirate	qh	kh		th			ph

Glides.—In ordinary speech the various sounds above described are not, of course, articulated independently of each other. In pronouncing the several 'letters of the alphabet' contained in a given breath-group (*ı e* a group of sounds uttered with one impulse of the breath-stream), we do not deliver them with just so many separate *staccato* movements of the vocal apparatus. They are ın reality lınked to each other by a continuous series of *glides* or *transıtıon-sounds*, created while the organs of speech are passıng from one position to another. Between any two

different languages Thus there are the 'trılled' *r* and the 'untrılled' *r*, and the narrowıng may be made at different poınts, *e g* at the gums, palate, and back of tongue

consecutive sounds produced in different manners there exists such a 'glide' For the most part these transition-sounds receive no representation in writing, inasmuch as the particular glide is practically inevitable, or implied in the situation. Thus, to take a very obvious case, in the Italian *due* it is unavoidable, for a correct pronunciation, that in passing from the *u* to *e* there should be created a light *w*-sound. We might in fact write du^we or du^xe To write $du\underset{\sim}{u}e$ itself would be an error, inasmuch as that method would suggest a pronunciation with too protracted a transi-tion (sometimes, it is true, actually heard in Italy), *du-we*, in which the *w* is as decisively articulated as the *d*, *u*, or *e*. The Australian cry 'cooee !' is phonetically $k\bar{u}\bar{\imath}$ with glide u ($k\bar{u}^u\bar{\imath}$) When the call is given with stress for long distances and in the usual protracted manner, the result is a distinct $k\bar{u}$-$u\bar{\imath}$ The difference is readily appreciable between the shapes taken by the lips in pronouncing the word *due* and those taken in producing an independent *du* followed by an independent *e* after a pause. The lips can be seen and felt to round in the act of transition. Similarly in 'piety' there is a glide between the vowels ($pi^ıety$) The glides belong, however, to consonants as well as vowels In *due* there is a glide from *d* to *u* and in $k\bar{u}\bar{\imath}$ from *k* to *u* Technically that glide is known as the 'off-glide' of *d* or *k* and the 'on-glide' of *u*. Every two consecutive sounds in a breath-group are thus connected by 'on-' and 'off-glides'

It will be obvious that any deviation in the articulation of a given consonant or vowel will create a consequent variation, however slight, in the character of its on- and off-glides. Furthermore, the glide between two given sounds may be more or less accentuated or prolonged. As a result, between consonants, as between vowels, there may ultimately be developed a new and distinct element in the word, demanding representation in the spelling, The Greek † ἀνρός (*anros*) becomes ἀνδρός (*andros*), the French † *tenre* becomes *tendre*, the Latin † *emtus* becomes *emptus*. The

modern French *oui* = *oil*, pronounced with the glide *o*ᵘ*il*,
then with the off-glide triumphing over its vowel, until it is
practically the glide only which is heard   Similarly, the
Greek † μροτός (*mrotos*) passes first into † μβροτός (*mbrotos*)
and thence into βροτός (*brotos*)

CHAPTER III

SPEECH AND WRITING

The Evolution of Alphabets

VERY early in the history of mankind there would arise the desire to communicate thought to others to whom there was no opportunity of speaking. Those persons might be absent, or unborn, or unable to understand the language spoken by the man whose thought was to be the subject of communication For those at a distance, for posterity, or for the foreigner of alien speech, attempts would be made to convey a thought by perception of the eye in default of the power to convey it through perception of the ear. Such attempts would naturally begin with the crudest devices, and, except with the simplest and most unmistakable notions, would fall very far short of their purpose. The natural efforts of mankind, in this as in other matters, to attain to greater precision combined with greater ease, have led to the evolution of *writing*. Far from perfect as modern writing is, it has travelled a long way from its rude origins

The first endeavours at the communication of thought to the eye would naturally take the shape of sketches or drawings, such as those executed by the American Indians or the Australian aboriginals These would represent a whole scene, which each observer would interpret for himself according to his own lights and the greater or less detail and precision of the delineation. Doubtless within a

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particular tribe or community there would grow up certain traditional principles to assist in both the execution and the reading of a drawing ; but even more beyond doubt is the fact that such sketches could only express the concrete elements in very simple notions, leaving undetermined—so far as the drawing was a drawing and nothing else— anything abstract, or any conditions of time, place, fact, or contingency. They therefore necessarily admitted of various and often contradictory interpretations.

At such a stage there is plainly no connection between symbol and individual sound, or even between symbol and speech at all It is thought, not language, which puts on the visible shape, a fact which is made clear by the reflection that this method of communication would be just as effective between the deaf and dumb who have never known any language, or between foreigners whose languages are reciprocally unintelligible Like gesture, it has no reference to the operations of the vocal apparatus, and makes no attempt to indicate them

The case is not very different with the ' knot-writing' which was once practised in a remote period of Chinese history, and which, as *quipu*-writing, was found by the Spaniards in regular use among the officials of the Incas of Peru. The *quipu* was a cord, measuring from two feet upwards, from which hung a parti-coloured fringe of threads These were knotted and intertwined in various conventional ways, and, partly by the colours and sequence of the threads, partly by the disposition and number of the knots, they could be employed so as to convey official messages and preserve records. This, of course, necessitated the represen- tation not only of material objects, but also of abstract notions. For the latter purpose the colours were employed Thus white stood for ' silver' or for ' peace,' red for ' gold ' or for ' war.' Here we take a distinct step beyond the sketch-writing of the North American Indians, inasmuch as we must assume for the Peruvian method the existence of a previous understanding or code of interpretation between

the parties employing the device.　Whatever the origin of the practice, the connection between thought on the one hand, and colours and knots on the other, became purely artificial and conventional, and instruction for both reader and 'writer' was as necessary as it is with the modern alphabetical system.　We can therefore perhaps hardly deny that the method was a form of 'writing'　That it was utterly inadequate and helplessly dependent on special materials is, no doubt, an immense disadvantage, but hardly touches the essence of the matter　More to the point is the fact that it was purely symbolical of ideas, and not of the sounds in which those ideas were orally conveyed.　It was not made up of signs with distinct phonetic values, but of signs with notional values in the rough.　Given, therefore, the secret of the meaning of a knot or colour, it would have been possible for persons of entirely different languages to write the same thought identically in *quipu*.　In other words, it has, like the sketch-writing, no relation to speech, but only to thought

We are not here concerned with the question whether it might not be a highly desirable thing for the world if it could actually possess certain universal symbols for register-ing thought directly, in spite of the diversities of spoken language.　As a fact that rather Utopian aim is not the recognised object of writing, which has so far only striven to impress upon the mind through the eye as exact a realisation as possible of the spoken sounds which would have fallen upon the ear, if it had been the ear which was addressed

For this purpose neither scene-drawing nor knot-writing could lead anywhere　As F. Muller points out, for those who, like the American Indians, possessed languages of the polysynthetic type, and whose mental processes had not arrived at the analysis of the sentence into individual words, much less into individual sounds, no other method of ocular communication of thought would suggest itself than one which expressed a whole conception as a unit.　For the

representation of the component elements, first as far as words, then as far as syllables, and finally as far as sounds, it was necessary to find some new point of departure

This lay in what is known as *ideography*, or writing by pictures, the conception of which—as its name implies—was fundamentally the same as in the more rudimentary scene-drawing above described, while its application was very different, and carried with it the possibilities of an immense development. In the picture-writing adopted by the Chinese in place of the older method of knots, in the earliest hieroglyphics of the Egyptians, in the originals of the cuneiforms of the Euphrates valley, and in the more advanced form of American writing employed by the Aztecs—who had arrived at a livelier consciousness of the individual word,—the pictures do not represent entire sentences Separate pictures correspond to separate words and stand habitually for those words. Originally, of course, each such sign was a literal representation ('ideogram') of a material thing, the application to abstract notions being determined by association of ideas Thus it would be natural to represent the sun by a rayed circle, and a tree, an ibis, a serpent, or a house by rough but recognisable drawings of those objects respectively The abstract notion of the verb 'hear' might, as in Chinese, be expressed by the picture of an ear applied to a door, or, in other regions, by some other self-explaining device In Chinese two hands clasped together denote the general notion of 'friendship'; in Egyptian 'thirst' was represented by the picture of a running calf added to the picture for water. Probably within a particular language a number of different devices would at first be attempted for the representation of the same abstract, but ultimately one of them would become universalised, either by right of special fitness (as the most precise or as the easiest to draw) or through some accident of authority.

In the earliest stage of such writing each sign is a clear

picture. The sign for 'sun' is a sun. The sign for a mountain is an elevation rising to a peak or peaks If such original distinctness and fulness had been maintained, it is manifest that the ideograms pertaining to one language might have been intelligible—at least in a large measure as regards the mere substance—to speakers of another language The communication is still a direct communication of notions and is not bound up with language. Except for differences in local customs, or in the local shapes of things, or in the *special* ideogram adopted for an abstract, or in the arrangement of the signs, the picture-writing of one people would largely resemble that of another, and each could in a corresponding degree interpret the pictures of the other into thought

As a matter of fact, however, such signs, when a series of them has been thoroughly established and accepted over a certain area, tend more and more to lose their frank distinctness and to adopt conventional shapes which admit of more easy and fluent writing. Their resemblance to the simple picture is at first obvious enough, then merely suggestive, and at last scarcely, if at all, discoverable In Chinese, for example, a mountain comes to be represented first adequately enough by the sign ⟨sign⟩, and then simply by three points ⟨sign⟩, while the symbol ⟨sign⟩ suffices for a man. In later Egyptian the picture of a lioness is replaced by an amorphous character something like the letter L (of which it is in fact the origin) with flourishes in the horizontal stroke ⟨sign⟩. If, therefore, writing originated in several quarters with pure ideograms, and if each people thus modified the outlines till the picture was wholly lost in a symbol, and if, as is inevitable, the modifications made by one people differed in their evolution from the modifications made by another, the result would be that, whereas the original *pictures* might have been reciprocally translatable with more or less accuracy into thought, the one set of conventionalised *symbols* would suggest nothing whatever to those who employed the other set. Even the people

which used a particular set of symbols would require to be taught their meaning and use, since they would no longer tell their own story. In Chinese the pictures were abbreviated (in the graphic sense) into conventional signs by at least as early as 2000 B.C., and the Egyptian hieratic symbols, when borrowed by the Semites at almost as early a date, had long ago lost the realistic outlines of the oldest hieroglyphs. In the 'demotic' writing of Egypt the departure is still more marked

The pictorial representation of individual words, while a distinct advance upon the scene-drawing which corresponds to entire thoughts, still labours under the disadvantage that it can only embody the substance or material of the thought. Even then the finer species of the same genus of objects (*e g* trees or birds) will hardly be adequately differentiated. Setting this last consideration aside, such a method lacks the power to express, except by artificial and awkward devices which are not properly pictorial, any of the necessary conditioning or auxiliary elements, such as those of tense or mood For instance, an unmistakable and self-explaining pictorial representation of the notion 'if' may fairly be called inconceivable Moreover, since each original picture stands for a special concept, the representation of thought in writing will require as many different picture-signs as there are concepts. It is, of course, the same with the merely conventional symbols, when they have ceased to be real pictures. The number of different signs to be mastered by writer and reader will therefore be very large, and the whole system exceedingly difficult and cumbrous. Chinese, which, as we shall see, has ingeniously simplified the system by its method of employing the same sign for all 'homophones' (or 'homonyms'), still cannot be reduced to less than about five hundred primary symbols.

Nevertheless it is from this pictorial or conceptual writing and its abbreviated symbols that a phonetic, and ultimately an alphabetic, writing has been derived. The process by which the symbol is transferred from represent-

ing a particular notion to representing a particular sound—
that is to say, is converted from an **ideogram** into a
phonogram—is not difficult to trace, and is historically
demonstrable in a degree sufficient for practical purposes.

All languages contain, in a greater or less measure,
'homonyms,' or 'homophones,' words which are different
in meaning but identical in sound. In English, for
example, we have *hare* and *hair*, *air* and *heir*, *I* and *eye*,
all and *awl*, *box* in its different senses, etc. In French *sans*
('without'), *cent* ('hundred'), *sang* ('blood') are all pro-
nounced *sã*, *neuf* means both 'nine' and 'new' In German
Tor is either 'fool' or 'gate', *acht* is 'eight' or 'attention',
backen is either 'bake' or 'cheek.' In Italian *hanno* ('they
have') and *anno* ('year') are identical in pronunciation
In Latin *păret* means either 'obeys' or 'appears'; *est* means
either 'is' or 'eats.' In ancient Egyptian *mer* = 'love' and
also 'eye', *nefer* means 'youth,' 'colt,' 'lute,' etc. In some
languages the number of such homophones is very large, and
inevitably so where all words have been cut down to very
light and simple monosyllables, as in Chinese In that
language the monosyllabic combination of sounds *hyä* has
the meanings 'eagle,' 'prince,' 'cold water,' 'fear,' and a score
more.

According to the logical application of written signs
derived from pictures, *i.e.* of ideograms, each of the different
concepts in such a list of homophones should receive a
symbol of its own. As a fact, however, both the languages
for which pictorial writing was brought into existence, viz.
Chinese and ancient Egyptian, fell very early into identify-
ing a sign with the *sound* of its word rather than with its
meaning Manifestly this would occur less readily while
the written sign was a literal picture ; but it would occur
easily enough when the picture had vanished from the
symbol. To the mind of a Chinese a symbol for *hyä*
would first and foremost call up the utterance *hyä* ; to the
mind of an Egyptian a symbol for *mer* would call up the

utterance *mer*. From the other side, the utterance *hŭã*, heard alone or in a doubtful context, might call up (to the mind's eye) any one of the series of original symbols belonging respectively to the several meanings of that utterance, but it would naturally first call up the most representative of those symbols, *i e.* the symbol which was attached to the most frequent (or perhaps the most dignified) sense of the word. Thus for the sound *hŭã* the notion which suggested itself *par excellence* would be that of 'prince.' It is therefore easy to understand the step by which the symbol for *hŭã* = 'prince' would come to stand for the sound *hŭã* in all its settings. In other words, the symbol would obtain a purely phonetic value, or become a 'phonogram.' Add the consideration that, among the large number of symbols originally standing for the different meanings of the same sound, there would arise (when the true pictorial character had been lost from each) the greatest danger of confounding their use, and so defeating the end of writing altogether In English the association of sound rather than sense with a symbol causes such frequent misspellings as 'their' for 'there,' 'here' for 'hear,' and *vice versa*. In Chinese the inevitable result in the case of a word like *hŭã* with, say, twenty-six meanings would be chaos. Hence another inducement to express the sound *hŭã* by its most representative sign, and to define the particular acceptation of that sign by the device of adding '*determinants*' or '*keys.*'

According to this expedient, 'cold water' is expressed by the sign for *hŭã* (= 'prince') added to the sign for 'water.' Thus the utterance is to be *hŭã*, but the particular sense of *hŭã* intended is defined by the determinant as 'cold water.' Similarly, taken alone, the phonetic sign for *pe* signifies 'white'; if we add the sign for 'tree,' the whole is to be read as "*pe*, but in the sense of the tree bearing that name, *i.e* the cypress"

The same generalisation of one symbol for a whole series of homonyms took place in Egypt, and a similar expedient was hit upon for differentiating meanings. On

the monuments, however, the determinants added to the phonogram are actual pictures of the olden type   Thus the sign for the sound *nefer* along with a lute would mean " the sound *nefer*, to be understood in the sense of the lute, and not in any other which might attach to it "

The change from the conceptual to the phonetic acceptation of a symbol is thus brought about by what is practically rebus-writing.   The process may be well illustrated by the practice of the Aztecs—who had made considerable advance in picture-writing before the Spanish conquest—in their efforts to represent the Latin *Paternoster* by means of their existing symbols.   In Aztec *pan* = 'pennant' and *tetl* = 'stone.'   The picture of a pennant combined with that of a stone suggests the sounds *pa(n)-te(tl)*   Similarly *noš* = 'cactus-fig,' and a picture of the fig combined with the picture of a stone suggests the sounds *noš-te*   The sight of the symbols ' flag ' + ' stone ' + ' cactus-fig ' + ' stone ' called up before the Aztec mind an utterance *pa(n)te-nošte*, or *paternoster* as nearly as available symbols could give it. Dissociation of the symbol from the sense and its association with the mere sound are here complete [1]

Thus far we have arrived at a phonetic value for a symbol, but not necessarily at even a syllabic, much less an alphabetic, value.   The symbol represents a certain combination or group of articulated sounds, but not the individual components of the group.   In the Chinese sign for *ta* there is no special mark for the *t* nor for the *a*.   In very ancient Egyptian there would be a sign for the whole word *nefer*, but none for *n, e, f, r*, respectively.   The oldest monuments do, indeed, show such alphabetical characters already in partial use, but the non-alphabetical stage is necessarily presupposed   In Chinese, it is true, the words being all

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[1] For Egyptian Dr. Isaac Taylor gives the amusing instance of *khesteb* (= lapis lazuli), represented by a man trying to hold back a pig. ' Pig ' in Egyptian is *teb*, 'stop' is *khesf*, and each ideogram stands for a sound, regardless of the meaning. Thus the picture reads simply *khes(f)teb*.

monosyllables, each character necessarily represents no more than a single syllable, e g *ta*, *mîn*, *pao*. In Egyptian also the greater part of the root-words were monosyllabic, and the signs, therefore, were largely of the value of single syllables , but this was by no means invariably the case.

In Chinese, with its always monosyllabic and entirely invariable words, writing stopped at the stage at which a sign represents the totality of the sounds combined into a syllable There was nothing to bring home to the Chinese mind the fact that even a monosyllable was compounded of a number of different sounds The conception of a smaller phonetic unit than the word was either never grasped, or seemed to have no bearing upon the practical needs of a writer With old Egyptian the case was different Here the words were not, like the Chinese, unchangeable in either length or sound. For the expression of grammatical relation they might be inflected by the addition of prefixes and suffixes. They might also undergo internal modification, corresponding to a modification of the root-idea. The result is well pointed out by F Muller Since the prefixes and suffixes might be single vowels or consonants as well as whole syllables, the writer would become alive to the oral practice of adding such single-sound modifying elements They would acquire an independence in his consciousness Thus with *son* ('brother') would go *son*a ('my brother'), *son*k ('thy brother'), *son*f ('his brother'), *son*u ('brothers'), *son*t ('sister'). From this fact the individual sounds *a*, *k*, *f*, *u*, *t* would come to claim independent recognition, and thus the resolution of a combination of sounds into its component elements became possible.

The recognition of syllables would necessarily somewhat precede the recognition of entirely isolated sounds When the latter was effected, it would naturally lead to the observation that a series could be made of words all beginning with one particular sound (e g *l*), and another series of words all beginning with another sound (e g. *t*), etc.

The step next taken was of supreme consequence for
all the subsequent history of writing This consisted in
allowing the character standing for a particular syllable
or group of sounds to be employed also simply for the
initial sound of that group Thus the character for
the sound-group *ahom*, 'eagle'—originally a picture of
that bird—came to stand for *a* The character for the
sound-group *ro* (originally the picture of *ro*, 'the mouth')
was used for the single sound *r*, the character for
laboi ('lioness') for *l*, etc There would, of course, thus
be in existence a larger or smaller number of characters
available for the same purpose, inasmuch as different
syllables or sound-groups equally began with the same
'letter' (e g. *ret*, *ra*, and others, as well as *ro*, began
with *r*). The question which of these should be chosen to
represent the initial *r* universally, would naturally depend on
the greater frequency or the easier shape of one as compared
with the others , or on some other consideration which we are
not in a position to discover. For a time there would be
room for option, till from amid vacillating use the fittest
would survive. Indeed in actual records, while there is a
regular representation for each of twenty-five simple sounds,
there are nevertheless found in the case of some of these
certain occasional, though not very frequent, variant forms.
Thus the sound *n* was represented not only by the regular
sign—the conventional derivative from the ideogram for
'water'—but also by a crown, and occasionally by a
vase.

By this means a true alphabet comes tentatively into
existence Nevertheless, though purely alphabetical signs
appear on very antique monuments, the ancient Egyptians
themselves never came to employ them purely and con-
sistently. The older methods of ideography and of syllabic
phonograms continued still to blend with the incomparably
more convenient device for which the way had been shown.
The consistent use of alphabetical characters proper triumphed
only when an alien people borrowed for the purposes of its

own language the best expedients at which Egypt had arrived.[1]

Development of Modern Alphabets from Egyptian by way of Phoenicia

That the Phoenician (or Babylono-Phoenician) alphabet came by borrowing from Egypt was a tradition of antiquity, and has been demonstrated beyond all reasonable doubt by the research of De Rougé   The precise date and manner of the borrowing are perhaps beyond discovery, but, granting the fact, and examining the earliest traceable existence of Semitic writing and its oldest specimens, the most plausible presumption is that an intimacy with the Egyptian characters was first forced on the Semites during that occupation by them of Lower Egypt which is associated with the name of the Hyksos.   From that period onwards the art of writing in similar characters would inevitably spread among the other Semites.   The Phoenicians in particular, who carried on a large commerce with Egypt and held trading settlements

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[1] A word must be said of another form of writing which had meanwhile sprung up and was struggling towards the same goal in the plain of Mesopotamia   The *cuneiform* ('wedge-shaped') script was in its origin as ideographic as the Egyptian hieroglyphs   In the method of writing invented by the non-Semitic 'Accadian' ('Sumerian' or 'Proto-Chaldean') inhabitants of that region the concept was first represented by a picture ('fish,' for instance, by the outline of a fish)   Such outlines, as they appear in the very ancient inscriptions known as 'linear Babylonian,' were originally drawn in strokes of an ordinary character, but speedily became conventionalised and unrecognisable as pictures, the process being accelerated by the fact that the symbols were chiefly impressed upon soft bricks rather than inscribed upon stone   This practice resulted in the use of an implement which imprinted a combination of wedge-like marks   At first such marks corresponded to at least the more salient lines of the ideogram, and recalled it.   Later they were simplified both in number and arrangement till they were intrinsically almost meaningless   Like the Egyptian and Chinese symbols, they next became phonograms   That this conversion would begin with the monosyllables, in which the single ideogram answered to a single sound-group, seems a reasonable assumption. In the hands of the Semites, who were first the neighbours of the Accadians and afterwards occupied their place, the signs became purely syllabic   The Persian conquerors at a later period adopted the signs with a further change to an almost, though not quite, purely alphabetic value

in the Delta, could not fail to realise the advantages to be derived from this easy means of record and communication In virtue of their pre-eminence as traders, the Phoenicians would naturally be the principal agents in the diffusion of writing both eastward and northward of Egypt Nevertheless, for the Semitic peoples alone, we need not assume that Phoenicia was a first and indispensable intermediary.

The style which the Semites might naturally be expected to learn would be that which was regularly practised by Egyptian scribes for ordinary purposes, and not that which is illustrated in the more elaborate and rigid forms of the monumental hieroglyphs That is to say, they would adopt the 'cursive' or 'running' forms of the 'hieratic' (or priestly) system which was then in vogue , and it is to the shapes of those characters, and not to those of either the older monuments or the latter 'demotic' (or popular) script, that the origin of the Phoenician letters must be referred Those prototypes are best seen in the Papyrus Prisse, an extremely ancient document transported from Egyptian Thebes in the first half of the nineteenth century to the National Library at Paris

In historical times the forms of the characters came to diverge widely in different areas of the Semitic domain. The *Aramaean* variety, followed by the post-Babylonian Hebrew, is markedly distinguishable from the *Phoenician.* Nevertheless, if we take the shapes of the letters in the pre-Aramaean 'Siloam inscription' of Jerusalem (dating from about 700 B C), the forms on the Moabite stone (of about 900 B.C), and the writing of what is known as the Phoenician 'Baal Lebanon' inscription (1000 B C.), and compare them with the oldest shapes employed in the Aramaean region, we are enabled to arrive at a primitive Semitic type which is directly deducible from that of the Prisse hieratics. Thus the hieroglyphic ideogram for *l*, a lioness, has become in the hieratics λ. On the Moabite stone the shape is ℓ, that of Baal Lebanon is ℓ, of Siloam ℓ, and of later Phoenician

　The passage of this symbol to the earlier Greek L

and Roman L is obvious   For practical purposes the
oldest Phoenician characters may be taken as representing
the script which the Semites had made out of the Egyptian
hieratics, and which became the parent of almost all the
alphabets in use to this day throughout the civilised world

Casting aside all 'determinant' ideograms and variants,
the Phoenicians adopted one sign consistently for each sound,
and so constructed an alphabet of twenty-two characters
They abandoned also the arbitrary arrangements possible in
Egyptian, and wrote, after the manner preferred in hieratics,
invariably from right to left.   For the most part they
naturally applied a given Egyptian character to the same
sound in their own language, or, where they did not possess
the exact sound, to the one which was most nearly akin.
The sign for *b*, viz $\mathcal{S}$ (originally the ideogram of a crane)
became in Phoenician $\mathcal{G}$, with the same value *b*.   The sign
for *f*, $\mathcal{\sim}$ (originally the ideogram of the horned snake),
became Υ and stood for *w*   There is, however, one series
of exceptions which particularly distinguishes Semitic ortho-
graphy.   The signs employed in Egyptian for vowels were
not so used in Phoenician, but received values of a different
kind   Thus *aleph*, the sign corresponding to Egyptian *a*, is
transferred to represent the light faucal consonant known to
students of Greek as the 'spiritus lenis' or 'smooth breathing.'
Similarly, the sign for *i* becomes the consonant *y* (*yod*)   The
vowels find no representation at all in old Semitic   The
significant elements in an ordinary Semitic root are its three
consonants, the vowels being regularly varied according to a
system.   The consonant was supposed to carry its vowel
with it, the *k*-sign standing for *ka*, *ki*, *ku*, etc., according to
circumstances.   Thus *ktb* may be read as *kataba*, *kutaba*,
kâtabu, *katûbu*, etc   It was presumed that the reader of such
script would possess a lively understanding of the language
as spoken, and, in virtue of that understanding, would in-
stinctively supply the proper vowels from the context.   To
some extent this practice was encouraged by the fact that
the parent Egyptian script itself frequently attached such a

'syllabic' value to a character, leaving vowels (at least other than *a*, *i*, *u*) unrepresented, but it was indisputably the peculiar importance of their consonants and the entire subordination of their vowels which prevented the Phoenicians from developing a completely alphabetical writing. The inconveniences of the system manifested themselves later, when it was discovered that ambiguity or lack of precision might occasionally arise from the absence of vowel-signs The earliest invention of diacritical marks for the notation of vowels appears to date from about the fourth century A D. The Phoenician script, therefore, still lies somewhere between a purely alphabetical and a syllabic writing Phonetic simplicity is not yet attained

It has already been said that the Phoenician alphabet is the parent of almost all the alphabets of modern times Their pedigree will be given immediately. Meanwhile some interest attaches to the names applied by the Phoenicians to the borrowed characters, inasmuch as those names were passed on in a corrupted form to the Greeks, and, in that form, have become familiar to most educated people The very word *alphabet* is derived through the Greek *alpha bēta* from the Phoenician names for the first two characters, *aleph*, *beth* The Phoenician names themselves were not borrowed with the symbol, but are pure Semitic, *aleph* meaning 'ox,' *beth* 'house,' *gimel* 'camel,' *daleth* 'tent-door,' and so forth Each such name is not only appropriate as beginning with the sound of the letter concerned, but also possesses, or did originally possess, a more or less appreciable aptness to the shape of the character. Thus *aleph* ('ox') not only begins with the sound of the *spiritus lenis* ('*aleph*), but is a sufficiently natural description of the sign ᚭ, which suggests the head and horns of an ox viewed from the front. *Daleth* ('tent-door,' or the flap of such a door) not only has the *d*-sound for its initial, but is also no bad description of the triangular symbol Δ. Similarly, *mēm* ('water') answers to the idea in its wavy line ᔎ *Gimel* ('camel') passed through the stage ᗱ (suggestive of the animal kneeling),

before˙ it reached the simpler form ⏋ Apparently the Phoenician, after adopting a symbol in its Egyptian phonetic value or one approximate thereto, cast about for a name which should fulfil both the conditions and so prove helpful for mnemonic purposes For instance, to the sign Ϝ or Ꝗ (Egyptian for *f*), with a value *w* in Phoenician, would thus be fitly applied the name *Vau (wau)*, 'peg' or 'hook.' It is also altogether probable that, at the time when the names were first applied, the resemblance was much more evident than it would remain after custom had come to permit of an easier calligraphy

That the Greek alphabet is simply a modification of the Phoenician is well known Not only is all ancient tradition in favour of this assertion, but the shapes, order, and names of the letters are sufficient to prove it *Alpha, Bêta, Gamma, Delta*, etc, are merely Graecised forms of *Aleph, Beth, Gimel, Daleth*, and the rest. For Greek itself the words have no meaning In comparing the Hellenic characters with the Phoenician we have to remember that Greek was first written after the Semitic manner, from right to left ; that then followed a period in which the lines could proceed either way (mostly *boustrophēdon, i e.* in alternate directions, the hand working back across the page as oxen turn in ploughing a field), and that establishment of the rule of writing from left to right was comparatively recent (*circ* 500 B C). Moreover, the shapes of the Greek letters themselves varied in different places and at different periods, the oldest inscriptions showing forms which are much nearer to the Phoenician than are those of the standard 'Ionic' alphabet familiar in Greek books.

Again, just as the Semite, while retaining a sign in its Egyptian phonetic value, felt himself compelled to alter the value of some few in order the better to express the peculiar sounds of his own language, so the Greek, while he mostly applied a Semitic symbol to the same sound in his own tongue, changed the value of some which he did not require,

in order to express other sounds which the Phoenician left without representation. He found, for example, in the Phoenician alphabet a surplusage of signs for sibilants and a lack of signs for vowels. But, to the Greek, vowels played no such subordinate part as in Semitic, and the necessity of giving them equal prominence was manifest from the first. Hence, out of the number of Phoenician characters, four which stood for non-Greek sounds were employed to represent the vowels A, E, I, O, while *Vau* was soon employed in two shapes, one (Υ) to represent the vowel *u*, the other (F) to represent the consonantal $ \mathit{y} (= w)$

In this transmission there was thus finally evolved alphabetic writing pure and simple.

The derivation of the original twenty-three letters of the Greek alphabet may be synoptically stated as follows An asterisk indicates a letter which changed its value to that of a vowel , an obelisk betokens that the letter subsequently fell out of use.

Old Phoenician Signs	Old Greek (Typical)	'Ionic' Alphabet
1 ⟨ Aleph ('ox') = '(spiritus lenis)	* ∆∆ (= a)	A (*alpha*)
2 ⟨ Beth ('house') = b	⟨ β	B (*bēta*)
3 ⟨⟨ Gimel ('camel') = g	⟨ Γ	Γ (*gamma*)
4 △ Daleth ('tent-door') = d	△	△ (*delta*)
5 ⟨ Hê (meaning obscure) = h (weak)	* ⟨ F (= e)	E (*ei, later epsīlon*)
6 ⟨⟨ Vau ('peg') = w	⟨F (see No 23 (=w))	lost (see 23) (digamma)
7 I Zayın ('swords') = z	I (=dz, zd)	(I) Z (*zēta*)
8 ⟨ Cheth ('hedge') = ch ('loch')	日 (= h)	*H (ē) (ēta)
9 ⊕ Teth (meaning obscure) = t (strong)	⊗ ⊙ (= th)	⊙ (*thēta*)
10 ⟨ Yôd ('hand') = y (ı)	* ⟨ (=i)	I (*iōta*)
11 ⟨ Kaph ('bent hand') = k	⟨ K	K (*kappa*)
12 ⟨⟨ Lamed ('goad') = l	∠ ∧	∧ (*lambda or labda*)
13 ⟨ Mêm ('water') = m	M M	M (*mū*)
14 ⟨ Nûn ('fish') = n	⟨ ⟨	N (*nū*)
15 ⟨ ⟨ Samech (meaning obscure) = s	田 (= ks)	三 (*xi*)
16 O Ayin ('eye') = 'h (a click)	* O (= o)	O (*ou, later omīkron*)
17 ⟨ Pê ('mouth') = p	⟨ ⟨	Π (*pī*)
18 ⟨ Tsade ('hook'?) = ss	†M (= s)	— (*san ?*)
19 ⟨ Koph ('back of head') = q	†⟨ (=q)	— (*koppa*)
20 △⟨ Resch ('side of head') = r	⟨ P	P (*rhō*)
21 W Shın ('tooth') = sh	⟨ ⟨ (= s)	Σ (*sigma*)
22 + Tau ('cross') = t	T	T (*tau*)
23 (new vowel value given to No 6)	⟨ Y (= u)	⟨ (*ū, later upsīlon*)

* In the above list the names *epsīlon* (ἒ ψιλόν), *upsīlon* (ϋ ψιλόν), and *omīkron* ὂ μικρόν) are new creations of grammarians The old names were εἶ (ı e ἐ) from Ἧe and, by analogy thereto, ῡ (ϋ), ō (οὖ).

In the above scheme the Greek alphabet has been treated, for the sake of simplicity, as if it had been adopted from the Phoenicians in one and the same form. As a matter of fact it more naturally found its way to different parts of Greece at different dates, through the agency of more than one contingent of Semitic traders, or by being passed on from one Greek people to another. We possess but scanty material for fixing the earliest acquisition, though there is little probability that it can have been later than the tenth century B.C. What we do know is that numerous local varieties were soon established, and these are found in vogue by the time we first meet with inscriptions. We need not, however, here concern ourselves with more than the two main systems, the **Ionic** (which, after the archonship of Eucleides in 403 B.C., was officially established at Athens and gradually became universally recognised as the standard Hellenic), and the **Chalcidic** (or 'Euboean'), which was carried to the Greek colonies of Italy on the Bay of Naples and elsewhere, and was thence taken up by the Latins (in the shape of that alphabet from which the modern scripts of Western Europe are derived), and by other Italic peoples in cognate forms.

Throughout Greece there had been recognised the necessity of modifying the Phoenician alphabet in other respects than that of giving a representation to the vowels. Peculiar among Greek consonantal sounds or combinations of sound were *dz* (*zd*), *th*, *ks*, *ph*, *kh*, *ps*. For *dz* (*zd*) it was easy to take the sign I (Z) of the non-Greek sibilant. For *th* the otherwise superfluous *t*-sound, ⊕, was adopted. For *ks* the form Ξ was available. For the rest it was found cumbrous to write ΠΗ, ΚΗ, ΠΣ, and the Ionic division applied to this purpose the signs Φ, Χ, Ψ (V), which were thereupon placed in that order after the original twenty-three characters above described. The same division felt it desirable to give a special representation to the frequent vowels, *ē* and *ō*. For the former it altered the value of the sign H from *h* to *ē*, and for the latter it modified the shape of O to

Ω, and appended that sign to the list. We thus arrive for the **Ionic** (and thence for the post-Eucleidean Attic and Greek in general) at the alphabet—

A B Γ Δ E · Z (=*dz*,) H (=*ē*) · Θ I K Λ·M N
Ξ O Π P Σ T Υ Φ (=*ph*) X(=*kh*) Ψ(=*ps*) Ω

The symbols *F*, ⊙ , and San were discarded

Meanwhile the **Chalcidic** variety retained *F* and ⊙ , kept H in its original use (=*h*), in some obscure way abandoned Ξ, but afterwards supplied its value later in the alphabet with X (=*ks*), accepted Φ (=*ph*) and Ψ, but used the latter for *kh* (not *ps*). For Λ the form was L Special signs for *ē* and *ō* were not employed. The Chalcidic alphabet was therefore—

A B Γ (C) Δ (D) E F Z H (=*h*) Θ I K L
M N O Π Q P (R) Σ T Υ (V) X (=*ks*) Φ V (=*kh*)

From the latter variety is derived the Latin alphabet, which for the most part remained true to both the forms and phonetic values of the letters. There are, however, certain noteworthy exceptions. The aspirates Θ (*th*), Φ (*ph*), V (*kh*) were not required for the purposes of Latin, and were accordingly rejected. V was accepted in both the consonantal (*u* = *w*) and the vowel function (*u*). F became the voiceless spirant The third letter C at first possessed the value of Γ, which it continued to retain in the abbreviations *Cn.* (*Gnaeus*), *C.* (*Gaius*), but for some uncertain reason[1] came to adopt the value of K as well. By this change K was rendered useless, although it still remained in the alphabet and was occasionally employed in certain words Through C having acquired two values, an ambiguity arose, which was met (perhaps about 300 B C) by modifying the shape to G when it stood for the original *g*-sound.

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[1] Probably through the influence of Etruscan, which possessed no 'voiced mute' *g* The influence of Etruria on early Rome is known to have been very great

Meanwhile the Z had been dropped as useless, and a place was thus found in the abecedaria for the new symbol Much later (*circ* 100 B.C) there was borrowed from Greek the sign ϒ to represent the sound of *v* in Greek words (*i e* French *u*), and Z was re-adopted for similar reasons These two signs ϒ and Z were naturally placed at the end of the alphabet already in vogue   The **Latin** alphabet thus becomes—

[1] A, B, C (= *k*), D, E, F (= *f*), G (formed from C and put in the place of the discarded Z), H, I, K (hardly used), L, M, N, O, P, Q, R, S, T, V (= *u* and *w*), X, Y (= Gk *v*), Z (used in Greek words)

Synoptically the development of the classical Greek and Latin alphabets from the older Greek forms may be represented thus —

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[1] The names applied by the Romans were twofold, viz either the Greek (*alpha, beta,* etc) or those which we have inherited   The latter were constructed by combining with each consonant its easiest vowel   "The easiest vowel preceded the continuants (*i e* the fricatives) and followed the explosives " (Taylor) Thus *a, e, i, o, u , ef, el, em, en, er, es , be, ce, de, ge, pe, te :* but *ka, ha, qu, ix Zed* retained its Greek name (*zēta*)

	Old Greek			Ionic	Chalcidic	Latin
1	A	=	ā̆	A	A	A
2	Ɓ	=	b	B	B	B
3	Γ	=	g	Γ	Γ (C)	C = ${1\ g \atop 2\ k}$} later k only
4	△	=	d	△	△ (D)	D
5	E	=	ĕ	E (= ĕ)	E (= ĕ̄)	E (= ĕ)
6	F	=	w	(lost)	F (= w)	F (= f)
7	I	=	dz,zd	I (Z)	Z	lost, re-borrowed later, its place taken by G (No 3)
8	☐	=	h	H (= ē)	H (= h)	H (= h)
9	⊕	=	th	⊖	⊖	(absent)
10	Z	=	ĭ	I	I	I
11	K	=	k	K	K	K
12	⌐	=	l	Λ	L	L
13	M	=	m	M	M	M
14	N	=	n	N	N	N
15	⊞	=	ks	亘	(lost, replaced by X. No 25)	(absent)
16	O	=	ŏ	O (= ŏ)	O (= ō̆)	O (= ŏ)
17	⌐⌐	=	p	⊓	⊓ ⌐ (P)	P
18	M	=	s	(discarded)	(discarded)	(absent)
19	Φ Ϙ	=	q	(discarded)	Q	Q
20	Þ	=	r	P	P (R)	R
21	⋝	=	s	Σ	Σ	S
22	T	=	t	T	T	T

F

Old Greek	Ionic	Chalcidic	Latin
23 $Y = \breve{u}$ reshaping of No 6	Υ	Υ (V)	$V = \begin{Bmatrix} 1.u \\ 2.w \end{Bmatrix}$
24 ⎫	Φ = (ph)	Φ (= ph)	(absent)
25 ⎬ Later additions for all Greek	X (= kh)	X (= ks)	X (= ks)
26 ⎭	Ψ (= ps)	Ψ V (= kh)	(absent)
27 { Additions for Ionic Greek	Ω (= ō)	(absent)	(absent)
28 { Late re-borrowings			Y
29 { by Latin			Z

Greek and Latin, like all other writing, inevitably developed from the capitals or 'majuscules,' an easier 'cursive' or running script for the pen ; and the small letters ('minuscules'), whether printed or written, are the result of nothing but progressive adaptations of the alphabetical forms given above.

The modern symbols J (for consonantal *z*) and W (for consonantal *u*) have no place in the Latin alphabet The sign J arose in the sixteenth century ; that of W was adopted for England and Germany in the later middle ages (thirteenth century).   A consistent distinction of sound accompanying a distinction of form between the rounded and unrounded V (*i.e.* U and V) is very recent.

It would be beyond the scope of the present sketch to deal in any detail with the evolution of the numerous families of alphabets which have been derived from Egypt by way of the Semites.   It will be readily understood that transmission from one people to another has been regularly accompanied by modifications in shape, additions of new symbols, and other changes analogous to those already described.   The *provenance* of the more important alphabets, so far as it is satisfactorily ascertained, may be most conveniently shown in the form of a family tree.

```
                          ┌─Phoenician — Punic — Berber (Tafinaq)
                          │        (Carthaginian)
                          │
                          ├─Palestinian─┬─Old Israelite
                          │             └─Moabite
           ┌─Phoenician ──┤
           │    type      │                        ┌─Greek (general)
           │              │                         ├─Coptic (Graeco-Egyptian)
           │              │              ┌─Ionic────┼─Gothic
           │              │              │          ├─Runic
           │              │              │          ├─Cyrillic (S E Slavonic).
           │              └─Hellenic─────┤          └─Glagolitic (S Slavonic).
           │                             │                        ┌─Latin
           │                             └─Chalcidic─ Italic──────┼─Umbrian, Oscan, etc.
           │                                                      └─Etruscan.
EGYPTIAN   │
    │      │
PRIMITIVE-SEMITIC (or BABYLONO-PHOENICIAN)
           │
           │              ┌─Later Hebraic ('square')
           │              │
           │              ├─Eranian──────┬─Pehlevi─Parsi
           │              │              └─Armenian.
           │              │
           │              │              ┌─North Indian (Devanāgari type)
           │              ├─Indian───────┼─Pali─Burmese, etc
           │              │              └─South Indian (Dravidian type)
           └─Aramaean ────┤
                type      │                            ┌─Persian.
                          ├─Nabathean─Arabic ──────────┼─Turkish.
                          │                            └─Hindustani
                          │
                          ├─Himyaritic─Ethiopic─Amharic
                          │
                          │              ┌─Neo-Syrian
                          └─Nestorian────┤              ┌─Mongol.
                                         └─Uigur────────┼─Kalmuk.
                                                        └─Manchu.
```

It should be added that, whereas the Occidental or Graeco-Italic alphabets have assigned an equal representation to the vowels, and are therefore alphabets in the proper sense, the Oriental have more closely followed their teacher, and have accepted the Semitic practice of subordinating, when not entirely ignoring, the vowel.   So far as vowels are expressed it is by means of diacritical marks of the nature of points and strokes   Thus the typical method in India of indicating *i* is by a mark above the consonant, while *u* is indicated by a mark beneath.   The most frequent vowel, *ă*, has no symbol, but is assumed, after the Semitic fashion, as inherent in the consonant.   The Oriental alphabets are, therefore, still in a measure syllabic

We have thus followed the process by which writing has gradually adapted itself to speech till it assigns a separate symbol to a separate sound instead of a picture to a notion The stages are summed up by F Muller in terms which we may somewhat modify in view of the treatment and expressions adopted in this chapter :—

I. **Conceptual** script—

  (*a*) Of thought as a whole (a scene-picture) , *eg.* of N. American Indians

  (*b*) Of thought in its components (pure **ideograms**), *eg.* of Mexicans, primitive Chinese, and primitive Egyptians.

II. **Phonetic** script—

  (*a*) **Word**-writing by **phonograms** (*i e.* with the same ideogram for a series of homophones), *eg.* in standard Chinese and early Egyptian.

  (*b*) **Syllabic** writing (*i.e.* with restriction of the meaning of a phonogram to part of its phonetic contents, a syllable), *e.g.* in Japanese,[1] the *Semitic* cuneiforms, etc.

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[1] When the Japanese had borrowed the Chinese signs for the writing of their own language, a new departure was found to be necessary.   Their words consisted not only of one, but of two, three, or more syllables.   The Chinese phonograms

(*c*) **Alphabetic** writing, not yet clear of syllabism (*i.e* with the corrupted symbol of the phonogram standing for its initial only, that is to say, for a letter ; but so that, while each *consonant* is expressed by such separate symbol, the *vowels* are left un-expressed), *e g* in Semitic and, in a less degree, the Oriental derivatives of the Semitic script. Egyptian exhibited this stage along with the next.

(*d*) **Alphabetic** writing proper (*i e* with a special sign for each sound), *e g.* the Graeco-Italic style, and, less completely, the later Egyptian and the *Persian* cuneiforms.

could not, therefore, suffice for whole Japanese words They could only represent syllables Hence about the beginning of the ninth century there was introduced the system called the *Kana,* by which a select number of Chinese characters (or at least abbreviations of them) were employed to represent syllabic instead of word values. Thus there was a sign for each of the vowels *a, e, i, o, u* when used as a syllable, and one for a combination of each of these vowels with each of the consonants (i e *ka, ke, ki,* etc , *sa, se, si,* etc) Meanwhile no provision was made for representing *k, s,* etc , by themselves Forty-seven such characters thus formed a syllabary, which sufficed for the orthographic representation of the language. As a fact, however, two varieties of the syllabary were either invented or evolved, the one less, the other more popular, called respectively the *Katakana* and the *Hiragana* The characters used in the two styles differ widely, but the syllabic principle is the same More recently other modifications of orthography have been introduced, and the system as a whole has become very involved and perplexing The invention of the *Kana* is commonly attributed to a certain Kobodaishi, a Japanese who had studied Sanskrit while in China and had gathered from that language the hint for distributing his series of characters The resemblance to the Sanskrit principle cannot be denied.

CHAPTER IV

THE CLASSIFICATION OF LANGUAGE

EVEN a somewhat superficial examination of the languages of the world suggests the possibility of classifying them according to two different principles. We may consider them, first, from the point of view of their *methods* of expression, *i e.* we may consider how far they agree or differ in their manner of building words and in their grammatical devices ; second, from the point of view of their *material* of expression, *i e* we may consider what kinship, if any, exists between the actual words which they respectively use for the expression of the same ideas. In other words, languages may agree with each other almost wholly, or in the main, or partially, or not at all, in respect of the *manner* in which they take the elements of speech and build words and sentences from them ; and they may largely, or partially, or not at all, agree in the actual *material* which they employ, *i e.* in the use of the same 'roots' and 'formative elements,' in order to express the same ideas.

Thus a comparison of Chinese with Japanese will reveal the fact that, while Chinese possesses no forms but monosyllables, which admit of no inflexions or variations whatever, Japanese has no such restriction as to number of syllables, and does build up various word-forms of different shades of meaning upon the common element vulgarly known as the 'root' The term 'root' is hereafter to be examined and defined , meanwhile, accepting it for convenience in the sense popularly attached to it, viz as the element of general

meaning left in common to a group of words when each such word has been divested of modifying or formative elements, we may say of Chinese that it consists of nothing but unchangeable and uncompoundable monosyllabic roots, whereas Japanese can add one or several new elements to a root, till different words are formed upon it, possessed of different applications of meaning or different relations to the sentence. Thus the Chinese word *paò*, with the idea of 'protect,' is absolutely unalterable in form, whether by addition, abbreviation, or internal change, whether it corresponds to an English verb, noun, or participle, whether the idea expressed is what we should call active or passive, whether it refers to past, present, or future There is no possible variation such as we employ in 'protect,' 'protected' 'protector,' 'protects,' 'protection,' 'protecting' , in the French *protég*er, *protég*é, *protég*eais , or in the Latin *proteg*o, *proteg*is, *proteg*ere, *protex*i, etc Differences of meaning implied by such forms as these must be expressed in Chinese by other devices of the sentence On the other hand, in Japanese we have such words as *kuru* = '(I) come,' *kureba* = 'if (I) come,' *koi* = 'come' (imperative), *kitai* = '(I) want to come.' Here the common element is both modified by addition and also phonetically varied It is obvious that, in respect of structural method, Chinese and Japanese cannot be classed together

A comparison of the same two languages in point of vocabulary will further show that (except for a stock of Chinese words which are historically known to have been borrowed into Japanese, like the Latin vocables borrowed into English) there is no perceptible agreement whatever between the roots which belong to the two languages. Therefore in respect of material also they cannot be classed together.

With these instances let us proceed to compare the Latin *facio*, *facis*, *fecì*, *fecisti*, *conficiēbam*, and the English 'come,' 'came,' 'comest,' 'coming,' 'forthcoming,' 'become,' etc In both instances the root is built into words repre-

senting various applications of the general meaning, or various functions in the sentence, by means of added elements, sometimes accompanied by internal phonetic change. So far Latin and English are in a certain agreement with Japanese, but are markedly distinct in method from Chinese Further examination (for which this is not yet the place) will again show that this *structural* agreement with Japanese does not proceed very far, and that we shall necessarily place Latin and English in a different sub-class from that into which Japanese would fall. English, again, would subsequently fall into a minor sub-class apart from Latin. In point of *material* there is no resemblance whatever between the specific roots which form the basis of Latin and English on the one side and those of either Japanese or Chinese on the other

Thus we discover that, of the languages already dealt with, (1) when looked at with regard to structural principles, Chinese stands in a class distinctly apart, while Japanese, English, and Latin possess certain features which bring them together, though (as has been hinted) it will subsequently prove necessary to separate the two last from the first in consideration of other features sufficiently pronounced. In other words, Chinese is an entirely ' *uninflected* ' language, while Japanese, English, and Latin are all ' *inflected*,' though in different manners or degrees · (2) looked at from the point of view of the roots (or sound-groups) which are used for a given notion by these languages respectively, Chinese is found to stand apart , Japanese also stands alone , while Latin and English are related to each other

Classification from the point of view of method is called **Morphological** , from that of the material, **Genealogical.** The former title is explained by the definition of morphology previously given. Simply stated, it implies a division of languages into classes according to the forms which their words may take upon themselves for the expression of

grammatical relations and for determining special applica-
tions of meaning The term 'genealogical' implies that
languages which can be shown to possess a common basis
of root-material (together with a fundamental identity of
method) are historically related by an actual pedigree, the
relation of two such languages consisting in the derivation
of one from the other, or of both from a common source.
Thus, if the Latin expressions for *one, two, three,* etc., are
ūnus, duo, trēs, etc , if its words answering to *acre, horn,
mouse,* etc., are *ager, cornū, mūs,* etc , and if a scientific
examination of the two vocabularies shows that a corre-
sponding identity of radical material exists to a very large
extent throughout the languages, and also that the principles
of their morphology were ultimately the same, it is assumed
that the two languages are akin in the sense of possessing
historical relationship We may, for instance, speedily place
English, German, Dutch, and Danish in one genealogical
class because of such obvious resemblance, a resemblance
which grows all the closer when scientifically examined.
We may assume as indubitable their community of origin
from a primitive Teutonic source. We may then go on to
discover that the most significant portion of the word- or
root-material which forms the staple of Greek, Latin, and
Sanskrit is again fundamentally identical with the material
serving the same functions in primitive Teutonic The
genealogical class is thereupon widened to include those
languages also. In other words, a genealogical class of
languages embraces as many speeches as can be assumed
to derive their most significant material, together with the
framework of their structure, from a common origin

CHAPTER V

THE CLASSIFICATION OF LANGUAGE (*continued*)

A. *Morphological Classification*

A TRENCHANT and uncompromising division of the languages of the world, as we find them, into clearly distinct morphological classes would be regarded as hopeless by an unprejudiced inquirer, that is to say, by one who did not inherit the preconceptions and repeat the dicta of a past generation of philologists Luminous differentiations, however desirable from an ideal point of view, can hardly be made in all cases without outraging scientific truth.

Possibly, if we could see the various families of languages at their earliest origins, we might (1) find their rudimentary structural methods to have been entirely similar to each other, and it may be that, in the length of time and the course of their several evolutions, they have drifted more or less widely apart. It is, however, quite conceivable that yet further evolution, resulting in the survival of the fittest methods, may once more bring them nearer to each other after they have essayed their various paths It is, for instance, an obvious remark that, different as Anglo-Saxon was morphologically from Chinese of the same date, yet in many respects (such as in the expression of grammatical relation by 'empty' words and by mere position in a sentence rather than by flexion) the method of modern English is tending to a distinct similarity with that of modern Chinese.

Or (2) it may be that all languages have started with the same morphological methods and have progressed along practically the same lines with one another, but some with more rapidity and some with less (a case of such difference being manifest in a comparison of the rapid development of English beside its more conservative sister German) The different morphology of different languages, as we see them, may thus represent different stages on the march of parallel development.

Or, again, (3) it may be that from various *incunabula*, or cradles of language, languages started on their career with very dissimilar methods, and that, in feeling their way towards their own perfection, they approach each other at certain points, while at others they remain apart.

Whatever the truth may be, we have no right to set out with any one of these assumptions, although, after a collation of the evidence, it is the business of the philologist to speculate upon the matter and to decide for the probability of one view as against that of another

The assumption has been generally, though not universally, made since the days of Schleicher (more than a generation ago) that the second of the three above-named possibilities is the only reasonable one , and there has followed a tendency to detect and mark off the supposed stages of that uniform development with more regard to symmetrical simplicity than to the facts of the data.

For the most part languages have been divided into three morphological classes, which are generally assumed to stand in an ascending order of progress, viz. ·—(1) the '*monosyllabic*,' '*isolating*,' or '*radical*' languages, such as Chinese ; (2) the '*agglutinating*' languages, including tongues as unlike in structure as Turkish and Japanese ; (3) the '*inflexional*,' '*organic*,' or '*amalgamating*' languages, such as the Semitic and most of the European

The first class in this too symmetrical account consists of languages, such as Chinese, in which the words are all

nothing but simple ' roots,' incapable of receiving suffixes, prefixes, or any other modification, internal or external   A sentence consists of root following root ; and if ' R ' stands for ' root,' *m* for its internal modification, and *a* for affixed element, the formula for a sentence in these languages, in their ideal conception, may be given as R, R, R, R, with no employment of either *m* or *a*.

The second class ideally comprises languages such as Turkish and Magyar, in which the chief ' root,' or element containing the main idea of a word, may receive, in the shape of suffixes or prefixes, additions of other elements for the purpose of defining more closely the application of that main idea, or of expressing its grammatical relation to other words in the sentence.   These added elements, though they have no independent existence in actual speech (whatever they may once have had), are, in the ideal conception of such languages, distinctly expressive of the required modifications, and are attachable and detachable at will, the main root meanwhile being left unobscured   The term ' agglutinative ' implies that, theoretically, the elements are ' glued on ' to each other, not dovetailed or amalgamated. The formula for the single word in these speeches may be given as Ra^n or a^nR, where *n* implies that there may be an indefinitely large number of the affixes.   Here again *m* does not, ideally at least, come into the formula.

The third class consists of languages in which the element expressing the main idea (*i e.* the ' root') is capable of receiving, in the shape of affixes, accretions of other elements for the same purpose as in the second class   But these accretions may become so welded with each other and with the main root as to be separately inextricable in the consciousness of the speaker, while the main root itself may be indefinitely modified in sound and shape, so as to be often quite unrecognisable for the same in the various words in which it occurs.   The formula for a word in these languages is therefore $R^m a^{mn}$.   [Thus, to take a simple, but purely imaginary, case.   Suppose (though the supposition is

vain) that we could find the same roots for the same ideas existing in a language of each of these classes.   Let EI = 'go' and ENT = 'they.'   The three types might respectively give (1) EI ENT (or ENT EI), (2) EIENT (or ENTEI), (3) EIENT, EINT, EIN, INT, IN, etc, without any care to distinguish the components of the word or to maintain one form of the root   So if ES = 'be' and SI = 'thou,' we might have (1) ES SI (or SI ES), (2) ESSI or SIES, (3) ESSI, ESS, ES, E(S)I (*ie* EI), SI, S, etc]

This triad classification has been much in vogue, and is apt to be repeated in the literature of the subject as if it were satisfying and exhaustive   Of those who so endorse it the greater part, moreover, take it for granted that a language whose place is in the third class has necessarily at some time passed through the second, and, still earlier, belonged to the first.   That is to say, it is assumed that a typical inflected word grew out of what was once clear agglutination, in which the main root stood distinct while the affixes were obvious attachments with a separable form and function , and that this stage was preceded by another, in which the elements destined to become affixes were still independent words, merely juxtaposed to the main root and to each other, in the same way in which the French *prudemment* derives from a Latin juxtaposition *prūdente* (or *prūdentī*) *mente*   A small minority, however, are disposed not only to assert that the assumption lacks adequate proof, but also to deny that it is *a priori* any more probable than the reverse development   The discussion of this question, so far as it is arguable upon the data, may be reserved for treatment later in this work   Meanwhile a few typical examples will show the difficulty of bringing the varieties of extant languages under any triple morphological classification whatsoever.

I. In most of the native American tongues the expression of a simple sentence regularly takes the form of a single word, often of unwieldy length, which consists of an

interweaving or amalgamation of merely the most significant sounds of those different sense-elements which would in most languages stand as separate words.   There is thus, normally, no such thing as a transitive verb without object and subject incorporated into it   From Greenland is reported as a stock example a sentence-word *aulısarıartorasuarpok,* ' he hastens to go fishing,' of which the component factors are mostly truncations, corresponding respectively to *aulısar* (' to fish '), *peartor* (' to be engaged in '), and *pınnesuarpok* (' he hastens '). Again, from Mexico, *nışōtšıtēmoa,* ' I seek flowers ' (literally ' I-flowers-seek '), and *nıkalchıhua,* ' I build a house ' (literally I-house-build '). Cherokee gives *nadholının,* ' bring us the boat,' which is analysed into the components *naten* (' bring '), *amokhol* (' boat '), and *nın* (' us ')   The case is usually stated as if the component elements were absolutely incapable of existence as individual words.   Sometimes, however, such sense–factors must be ejaculated alone.   Moreover, Greenlandish can and does form certain sentences in which single words are left clear and are marked as subject or object by means of suffixes.   Mexican, again, can and does individualise ' words ' in the sense more familiar to us, e.g. *šōtšıtl,* ' flowers '   That is to say, what is known as **Polysynthesis** or **Holophrasis** is to some extent varied by methods which are practically flexional.

II The Basque language, spoken about the extreme Western Pyrenees, is quite distinct from the American languages in respect of this fusing of a *whole series* of words into one compound which forms the sentence   It is not polysynthetic in that sense.   Nevertheless, just as it is the dominant principle of the American languages to pack all the other elements of a sentence into a framework consisting of a verb and its subject (as in the Mexican ' I-flowers-seek,' or *nı-k-tle-watsa,* ' I-it-(with)-fire-roast '), or in some way to weld objective and qualifying matter into an amalgam with the verb, so in Basque the same phenomenon occurs, though in a more limited degree, the amalgamated elements being only the direct and indirect objects, the subject, and the verb.

The incorporation, moreover, is confined to pronouns   Thus *d-(a)-kar-kɪ-o-t* (= ' it-carry-to-him-I ') forms but one word, *dakarkiot*, ' I-carry-it-to-him.'   Similarly *n-(a)-kar-su* = ' me-carriest-thou,'   *h-(a)-kar-t* = ' thee-carry-I,'   *h-(a)-bɪl-kɪ-t* = ' thou-goest-to-me '   In Basque the verb proper has no existence apart from its pronominal complements   This fact removes the language from serious comparison with French or Italian, when those tongues exhibit a milder species of pronoun-incorporation in a disguised form.   The French *je te le dɪsaɪs* (' I-to-you-it-said ') and the Italian *(ɪo) glɪelo dɪssɪ* (' I-to-him-it-told ') are, it is true, but slightly distinguished from a combination *jetledɪsaɪs* (*žətlədīzē*) or *glɪēlodɪssɪ*. In some cases orthography recognises the partial unification, as in the French *donnez-le-luɪ* and the Italian *darvelo* (' give-to-you-it ')   Nevertheless the French or Italian verb enjoys regularly a separate existence, and even partial incorporations of the kind illustrated are the exception.   It is worth while, however, to note this point of approximation in languages otherwise so unlike.

Apart from this degree of polysynthesis Basque is agglutinating-inflectional.   For instance, it expresses the grammatical relations of nouns by a declension with suffixes, *e g. gɪzon*, ' man,' *gɪzon(e)z*, ' by man,' *gɪzon*gandik, ' from the man '

III   In the Bantu (or Zulu-Kafir) family of South African languages we find new phenomena.   The words are regularly separate in the sentence, their modifications of sense and their grammatical relations to each other being expressed by elements mostly (though not solely) *pre*fixed. For example, in Zulu *ng-umu-ntu* = ' with (the) man,' *ng-aba-ntu* = ' with (the) men,' *ng-* representing the sense ' with,' while the variation *aba-*, as against *umu-*, conveys the idea of plurality.   Moods and tenses are likewise formed by prefixes.   The Bantu speeches meanwhile exhibit a certain amount of the above-mentioned incorporation of the objective pronoun   *Sɪmtanda* (= *sɪ-*m-*tanda*) = ' we-it-love '; while *sɪ-*ba-*tanda* = ' we-them-love.'   Here again we may compare

(with a reservation) the French *nous l'aimons, nous les aimons.*

IV. In Hungarian (Magyar), Turkish, and kindred languages the ideal principles of declension, conjugation, and word-formation in general are those described above as 'agglutinative' A typical example is the Turkish

*Sev*mek,	' *to* love '
*sev*inmek,	' to love *oneself*'
*sev*ishmek,	' to love *one another* '
*sev*dirmek,	' to *make to* love '
*sev*ilmek,	' to *be* loved '
*sev*memek,	' *not* to love '
*sev*indirilmemek,	' *not* to be *made to* love *oneself*'

Similarly in Magyar *zár* = 'shut,' *zár*at = 'locks' (causative), *zár*atgat = 'he *often* shuts' (frequentative causative), *zár*atgathat = 'he *can often* shut' (potential frequentative causative)

Compare this with a declension in Turkish—

Nom	*ev*,	'house'	Nom Plural	*ev*ler
Gen	*ev*in			*ev*lerin
Dat.	*ev*e			*ev*lere
Acc	*ev*i			*ev*leri
Loc	*ev*de			*ev*lerde
Abl	*ev*den			*ev*lerden

Here we have the root left unchanged throughout, and its grammatical relations or modifications of sense expressed by post-positions or suffixes, which can be easily detached by the mind and recognised as distinct elements with a distinct function How distinct that function is may be seen from the above declension of *ev*, where the same sign is used for the same case whether in the plural or the singular. If the main 'root' = A, the case-suffix = y, and the plural sign = x, the case for the singular is Ay, while that for the plural is Axy. The number of such additions is limited only by their practical utility But, though this is the ideal morphological principle of the Ural-Altaic family of languages, it is far from being the case that the suffixes can always be thus

detached and conceived of apart from the root as possessed of any original independent existence. In Finnish, for instance, there is almost as complete an amalgamation of flexional elements with the root as in the Latin *ager, agri, agrō*

Within the Ural-Altaic family also there occurs occasional 'incorporation' of a pronoun, *e.g.* Magyar *varlak* = 'I await thee.' Prefixes occur also, as in Magyar, but these languages have no power of compounding in any other sense.

It is also noteworthy that in the vernacular speech (which is the real language) of certain peoples whose languages are usually included in this class, there is often a polysynthesis which could not be distinguished from that of the American peoples, if we did not possess information to make us artificially conscious of the separate elements Thus in Kalmuk *ogungadshi bainai bi* ('I shall soon go') becomes by mere rapidity or economy of articulation *ogungadshanab*, while *usadshi bainu tshi* is welded into *usadshanutsh* Dealing simply with the facts as they are, and not inquiring into origins, we cannot deny that these instances and their like represent sheer polysynthesis.

V In Latin, Greek, Sanskrit, and their kindred languages, in their synthetic stage, grammatical relations and modifications of meaning are expressed, as in the preceding class, by suffixes , but these are for the most part indistinguishable as anything more than modifications of the stem-termination They have no independent existence, nor are they recognised as regular and distinct in one definite function In these tongues the root part of the word is susceptible of complete obscuration, while the suffixes also undergo phonetic corruption to an unlimited extent The roots and suffixes may be welded together into one inextricable mass, so that the speaker is unconscious, and science can often hardly discover, how much is root and how much is suffix or suffixes Nevertheless, the close analogy of principle itself (viz of modifying meaning and relation by

suffixes) between this group and the preceding is obvious. As a matter of *principle* the Latin declension *vir, viri, viro, virum* differs in no respect from the Turkish *adem* ('man'), *ademin, ademe, ademi*, nor does the system *ago, agis, agit, agimus* differ in principle from the Magyar *lelem, leled, leli, leljuk.* The distinction lies in the transparence and regularity of the word-building process in the Ural-Altaic group, and its lack of uniformity and its unrestricted obscuration in the Indo-European. The exact original meaning of the respective suffixes of case or person may or may not have been different for the two series; in effect they amount to the same in function. For this reason it is unscientific to use the current phraseology, by which an 'agglutinative' is distinguished from an 'inflexional' class Agglutination is inflexion, and if another term is required to distinguish the more patent and detachable from the obscured and inextricable flexion, the latter may more properly be styled 'amalgamating,' while 'inflexional' should stand for the larger division, which includes both the 'amalgamating' and the 'agglutinating' In further illustration of the difficulty of definitive demarcation, it may be added that, in the stage of synthetic Greek, Latin, etc., which we call 'classical,' those languages already tend to help out the grammatical relations by means of other devices than simple flexion, such as prepositions and auxiliaries. Thus, in Latin in *urbe manēre*, **ex** *urbe movēre*, take the place of an older *urbe manēre, urbe movēre*, and in Greek ὑπό, διά, etc, with the genitive are substituted for a simple case like the instrumental

In this class of languages there is no power of incorporating, though there is much of compounding, prefixes being in all cases originally non-flexional and the result of composition

VI. The lineal descendants of the languages in the preceding group tend to an analytical form, *i.e* they tend to render unnecessary or to replace the inflexional terminations of the synthetic stage (1) by the use of pronouns, auxiliary verbs, prepositions, etc., and (2) by utilising position and

order in the sentence Generally speaking, they make a practice of expressing by pre-posed 'demonstrative' *words* the same relations which were formerly expressed by terminational (post-posed) demonstrative *elements.* The extent to which analysis has yet been developed differs much in the various languages English and Persian are examples of the most advanced For purposes of comparison of method we may take the French *mon frère a vu le roi*, as contrasted with the Latin *meus frāter vīdit rēgem*, or *frāter meus vīdit rēgem*, or *rēgem vīdit frāter meus*, etc. In Latin the order of the words admits of numerous variations In French it is fixed. Similarly in *le roi a vu mon frère* the nouns are without flexion, and therefore without option of position, whereas the Latin terminations permit of the order *rēx vīdit frātrem meum*, or *frātrem meum vīdit rēx*, or *vīdit rēx frātrem meum* without ambiguity These instances will illustrate the character of the change, as it appears in the most advanced form to which analysis has yet attained in French. English has become even more flexionless 'We have,' 'you have,' 'they have' are all that is left to correspond to original Teutonic differences which were as wide as are *habē*mus, *habē*tis, *hab*ent in Latin. French, in respect of its verbs, still combines an inheritance of synthesis with the newer analytical method, a fact which is evident in *nous av*ons, *vous av*ez, *ils* ont. German, again, has retained, though in a modified form, a case declension, which English and the Romance languages have cast off. If we take English as the most advanced type, we discover the principle of analysis to be the expression of grammatical relations and modifications of the idea by means of separate 'demonstrative' or 'presentative' words and by means of position in the sentence."

Thus the almost monosyllabic sentence 'I go to town every day and come back at the same hour from one end of the year to the other,' contains not one mark of flexion. Compare this with the Latin *eo cottīdiē in urb*em *et inde eā*dem *hōr*ā *ab initiō ann*ī *usque ad fīn*em *rede*o, which,

however, itself shows a share of the analytical in respect of its prepositions.

A kind of reaction in the shape of a limited degree of polysynthesis is met with in the commoner phrases of such analytical tongues, the separate words running into each other in abbreviated forms   Thus the French *qu'est-ce que c'est que ça?* is in popular speech a complex of the form *kèksèksa?*   In German *zu der* becomes *zur*, *bei dem* becomes *beim*.   In English *don't*, *shan't*, *don*, *doff*, *you're*, are simple examples of the process.   *Goodbye = God be wi' ye*   Such forms are, doubtless, the accidental outcome of haste or indolence, but there is nothing to show that the American Indian polysynthesis is not also similarly accidental.

VII. The group of languages to which belong Chinese, Anamese, Siamese, etc, exhibits a character unusually consistent.   It is monosyllabic, and possesses no true compounds nor any flexion whatever   Neither by suffixes nor by prefixes proper does it show what part a word plays in a sentence   By far the chief, though not indeed the only, grammatical device is the position of the words   The order is subject, predicate, object.   The qualifying word precedes the word qualified   Thus in Chinese, 'I beat thee' is *ngò tà ni* ('I beat thou'), but 'thou beatest me' is *ni tà ngò* ('thou beat I')   'Great state' is *tà kuok*, but 'the state is great' is *kuok tà*.   Nevertheless, this device, which is theoretically sufficient, is in practice assisted by the use of certain series of words which have come to be virtually 'demonstrative,' *i e* to play the part of determining elements, such as prepositions, signs of number, etc.   Certain words (called by the Chinese 'empty') are employed in a symbolic use to indicate relation.   Thus *tsï* (*tchi*) which originally means 'place,' has come to be used in positions where it practically = 'of'   Thus 'the power of the people' is *min tsï lik*, an expression in which *min* = 'people,' *lik* = 'power,' and *tsï* is symbolic   However independent a meaning *tsï* may once have possessed, it here amounts simply to the *'s* in 'people's,' and it has only to be attached more closely to its

preceding word to form an actual inflexion In so far as such empty words follow a noun and are included under one accent with it, we have a crude form of suffixing Yet the flexionless character of this group of languages gives them an obvious differentiation from any hitherto mentioned, though it must be evident that analytical English is approaching them in point of syntactical expedients, though not in point of word-content and word-building. English can still construct words by combining certain factors on existing models, while Chinese can build no such words, because it possesses no such patterns

VIII. The Semitic languages (Hebrew, Arabic, etc.) exhibit morphological peculiarities not revealed in any speech yet mentioned, while in other respects they agree with other groups In point of external flexion, *i e* elements external to the 'root,' they possess, or have possessed, suffixed signs of case, number, gender, and person, which, however dissimilar in form and exhaustiveness to those of Latin, Greek, etc, are in no way different from them in principle

Thus in classical Arabic there is a noun-declension which may be illustrated as under —

(Singular)	(Dual)	(Plural)
Nom *abd*ū	*abd*āni	*abd*ūna
Acc *abd*ā	*abd*aini	*abd*īna
Gen *abd*ī	*abd*aini	*abd*īna

Similarly in the verb-system —

1st pers sing		*katab*tu,	'I have written'
2nd ,, ,,	(masc)	*katab*ta,	
,, ,, ,,	(fem)	*katab*ti,	
3rd ,, ,,	(masc)	*katab*a,	
,, ,, ,,	(fem)	*katab*at, etc.	

It is often impossible to distinguish its grammatical procedure from the agglutinative method of Turkish or Magyar For example, in the Arabic scheme

*kitāb*ī,	'my book'
*kitāb*uka,	'thy (masc) book'
*kitāb*uki,	'thy (fem) book'
*kitāb*uhu,	'his book'
*kitāb*uhā,	'her book,' etc

the agglutination of elements is quite as direct and trans-
parent   The only difference of practice lies in the very
limited extent to which it can be carried out in Semitic
In this group, again, we find in later times the tendency to
analysis, as when Hebrew loses its declension-endings and
replaces them by particles

In the treatment of the 'roots' themselves, however,
these languages show a remarkable peculiarity   The root
arrived at by induction consists regularly of three consonants,
into the framework of which any of the vowels may find
their way according to modifications of function and meaning
Thus from a 'root' *qtl* there are in use in their several
functions such forms as *qtel, qtol, qtil, qtal, qtul, qutl, qutel,
qutal, qatal, qātal, qetol, qetōl,* etc.   Thus *qutila,* ' he was killed,'
qatala, ' he killed,' *aqtala,* ' he caused to kill,' *yaqtulu,* ' he kills,'
qātil, ' killing '   It is true that there appears to be something
of the kind in the Indo-European phenomena technically
known as ' Ablaut ' and ' Umlaut,' as in *swim, swam, swum* ;
long, length ; πείθω, ἔπιθον. πέποιθα (*peitho, epithon, pepoitha*),
fides, fido, foedus   These variations, however, depended
originally on accentuation, not on meaning, and they are now
only an occasional and irregular phenomenon in extant Indo-
European tongues, while in the Semitic languages they are
wide in range, systematic, and of the very first importance.
They are of the essence of the language, the most prominent
device for the modification of sense   In other words, they
are ' dynamic,' and serve a necessary morphological purpose,
which is not the case with the vowel-changes of Indo-
European.

The Semitic languages further admit of no large accretion
of suffixes and of no compounding

The eight groups selected above are merely main types,
and are by no means exhaustive.   They have been chosen
simply in order to illustrate the difficulties which lie in the
way of any brief classification which is to be both trenchant

and true It may be well to review them briefly for the same purpose

Type I. has for its principle polysynthesis or complete incorporation Such languages have been styled Polysynthetic, Incorporating, or Holophrastic (*i e.* speaking in words which are whole sentences). At the same time it must be recognised that several of them tend towards more resolved forms and to a species of flexion Frequently also the polysynthetic process might just as well be called agglutinative The Chilian *elu*n ('to give'), *elu*guen ('to give more'), *elu*duamen ('to wish to give'), *elu*valen ('to be able to give') represent a system quite analogous in method to that illustrated for Turkish with *sev*mek, etc.

Type II. is 'incorporating' only in so far that pronominal elements are 'included.' In other respects it is practically an inflected language. To call Basque simply 'incorporating' is to mislead

Type III consists of 'agglutinating' languages which express relation and modification mainly by means of prefixed elements Pronoun-incorporation is not alien to them

Type IV consists of the typical 'agglutinating' languages, expressing relation and modification by means of suffixes, which are theoretically unlimited in number and represent in that sense a certain measure of polysynthesis, and which, theoretically again, are easily recognised as detachable from each other and from the main root It must be granted, however, that this ideal is seldom reached, and that the suffixes are frequently no more than flexional 'signs' which cannot be conceived as existing apart from the main body of the word. Moreover, whatever their shape and transparency, they do not differ in function or purpose from those employed, though obscured, in the amalgamating languages which next follow. Pronoun-incorporation is found sporadically to a small extent.

Type V consists of languages commonly spoken of as 'inflexional,' sometimes as 'organic' We shall prefer to

call them 'amalgamating' These modify the sense and relation of words by variations of the terminating elements, which are either demonstrably suffixes or are generally admitted to have been such in their origin, but which have mostly lost their individual shape and signification and have often become inextricably welded into the main root. Often, however, the elements are still as distinct in their 'agglutination' as those in the type last treated. At the same time all such languages, so far as we can meet them in history, are partly analytic, like the next type, *i e* they tend to assist the purely flexional method by means of prefixed pronouns, auxiliaries, prepositions, etc

Type VI comprises languages in which the 'analytic' method prevails, *i e* the expression of relation is mostly transferred from undetachable suffixes to separate prefixes. Fléxion still exists in greater or smaller measure, but is no longer the essential and vital principle. The chief syntactical principle is position.

Type VII embraces those languages, quite devoid of flexion, which have been named 'radical' or 'isolating.' The term 'monosyllabic' is less philosophical, since the ultimate question is not how many syllables a word contains, but whether it contains or does not contain in itself any element which marks off its grammatical position in the sentence. Nevertheless, though flexionless, these languages do employ certain signs of relation in the shape of separate words, which perform in a limited degree the same function as flexional suffixes or analytical prepositions Their essential principle, however, is, as in the last type, position.

Type VIII includes languages which possess suffix-flexion and to some extent prefix-flexion, with a tendency to the analytical ; but which also systematically represent modification of sense by internal variation of the vowels of the 'root.' These are usually spoken of simply as 'inflexional' and are unsatisfactorily classed with type V

Thus in these eight types alone, considered in their chief features, we have —

1. Essentially *Polysynthetic, Holophrastic,* or *Incorporating* tongues , such as the American Indian

2 An inflected tongue habitually incorporating pronouns. *e g* the Basque.

3 *Prefix-Agglutinating* languages . the Bantu family.

4 *Suffix-Agglutinating* languages *e g.* the Ural-Altaic

5 *Suffix-Amalgamating* the Indo-European tongues in their older stage

6 *Semi-inflexional,* or *Analytical* (largely *positional*) : most Indo-European languages in their modern shape

7 *Isolating,* or *Radical-positional* Chinese, etc.

8 *Suffix-and-Prefix-Amalgamating,* with dynamic variability of the root the Semitic tongues.

It has already been pointed out that even these more salient types touch each other at various points and in somewhat complicated ways, as well as that the principle is often virtually the same, even when the results of its application render a convenient difference of terminology possible, as in the expressions 'agglutinative' and 'amalgamating' When we come to deal with yet other tongues less saliently and consistently characterised, such as Japanese, Malayo-Polynesian, or the Dravidian languages of Southern India, it becomes practically impossible to place them uncompromisingly under any morphological description indicated above Where the words of a language employ different endings to express different relations, the question whether such endings constitute 'amalgamation' or simple 'agglutination' is generally a difficult one to determine, the distance from the clearly detachable modifying suffix to the undetachable inflexional termination being marked by every possible gradation In some cases the evidence has been flouted Thus the Dravidian languages are usually placed among the agglutinative Yet such a system as *kal* ('stone'), *kall*ai (accus), *kall*in (gen), differs in no morphological respect from the Latin *lapis, lapid*em, *lapid*is The endings are flexion-

endings , for they are certainly not conceived by the speakers as having a substantial value in an abstract shape   The same remark applies to, *e g*, Finnish *maa* ('earth'), *maan* (gen), *maa*lta (instrumental case)   The Polynesian tongues are commonly classed with the agglutinative (apparently because their cognate Malay is mainly agglutinative), though the cases, persons, tenses, and moods are formed by particles in as purely analytical a way as in English   Thus in Maori *te tangata* = 'the man,' o *te tangata* = 'of the man,' ki *te tangata* = 'to the man,' etc, follow principles identical with those of English   In Japanese, which again is relegated to the same class, we find that the relation of nouns is indicated by the post-position of separate particles, *e g de*, 'by,' *ni*, 'in,' *no*, 'of,' *ye*, 'to' or 'at'   Thus *hasami* de *kiru* (literally 'scissors-with to-cut'), *neko* no *tsume* (lit 'cat-of claws'), *gakkō* ye (lit 'school-at ')   The line of demarcation between forms like these and a fully agglutinated *hasami*de, *neko*no, *gakkō*ye is so slight that it appears optional to treat the particles as actually affixed or not , but the line between these and the 'full' and 'empty' words of the 'isolating' Chinese *min tsi* ('people-of') is almost as slight.   If, again, it is laid down (as it usually is) that one criterion of an agglutinative language is the distinct phonetic preservation of its 'roots,' as distinguishable from its suffixes, it is obviously impossible to treat Japanese as agglutinative in view of such paradigms as *kitai, kureba, koi*, from the same element for 'come,' or *sureba, shimasu*, from the same element for 'do.'   *Gozaimasu* ('shall be') is colloquially—and, after all, it is the colloquial which constitutes the essence of language—turned into *gasu* or *gesu*, a phenomenon which is directly opposed to the ideal agglutinative principle.   The case is the same with Basque, another language usually called agglutinative   *Dadukat* ('I have it') becomes *daut* or *dut*, the 'root' of which Van Eys gives as *eduki*, while the verbal theme is often simply *eu*.   That the principle upon which the Japanese so-called verb-forms were built up was originally agglutinative is highly probable, but the same

may be said of the amalgamating tongues   Certainly the
agglutinative principle is not kept clear   Japanese *samasanai*
('I do not make cool') is, according to Mr Chamberlain,
composed of *sam* ('cool') + *as* (connected with *suru*, 'to do')
+ *a* (negative base-inflexion) + *nai* (negative verbal form
expressing non-existence)   No one can maintain that these
various accretions are felt in their individual force as
detachable, nor do they differ in any classifiable manner from
forms of the amalgamating morphology, such as the Gothic
aflagemai ('for the remission'), a word composed of *af* ('off')
+ *lag* ('lie') + *ei* (causative suffix) + *ni* (verbal noun-sign)
+ dative case-ending.

The fact is that languages overlap each other's morpho-
logical borders and invade each other's territory at so many
points that a scientific frontier is impossible   We must not
limit the number of morphological classes actually existing
and then force a given language into one or other and
exclude it from participation in any of the rest

Among attempts of philologists to divide languages
morphologically we find the following supported by great
names —

F and A W. Schlegel—
    (i) Languages without inflexions
    (ii) Languages with affixes
    (iii.) Inflexional languages.

Grimm—
    (i) Languages without inflexion
    (ii.) Inflexional languages.
    (iii.) Analytical languages

Bopp—
    (i) Languages with monosyllabic roots without power
        of composition
    (ii.) Languages with monosyllabic roots which admit of
        composition into grammar.
    (iii.) Languages with disyllabic roots capable of interior
        and exterior modification.

Pott—
    (1) Flexional languages with complete amalgamation of the word-elements.
    (11) Agglutinative languages with external union of the elements.
    (111.) Isolating languages without power of union.
    (1v.) Incorporating languages in which there is no difference between word and sentence.

Schleicher—
    (1) Isolating languages with roots merely juxtaposed.
    (11) Agglutinative languages with external union of uncorrupted and unobscured main roots with subordinate modifying roots which admit of obscuration
    (111) Inflexional or amalgamating languages with all the word-elements capable of corruption.

It will be seen that no two of these methods of division are identical, though there is a little difference between that of the Schlegels and that of Schleicher   It will also be seen that there is a measure of justification for each, while, at the same time, each is unsatisfactory   That of Schleicher, upon which we have laid special emphasis in consequence of its great vogue, is open to particular objection, since, as Whitney says, it classes Indo-European and Semitic as morphologically alike, "while their structural discordance is vastly greater than that which separates Indo-European from the agglutinative tongues"   It is open also to the objection that it denies agglutination to be a form of inflexion   The inevitable conclusion is that each philologist has either divided too much or too little, or rather that he has neglected to make the proper main divisions first and the subordinate divisions afterwards   If we begin afresh and without prejudice we can only divide languages into two main classes :—

    I. Languages which express grammar and modification of sense by position, without external or internal modification of the 'roots.'   These may be called **Inorganic** or **Positional.**
    II Languages which do employ the device of external

or internal modification in different manners and measures. For convenience these may be called **Organic**

The **Positional** languages include Chinese, Burmese, Anamese, and their group. The **Organic** include all the rest, though the extent to which they share in the organic quality varies to such a degree as to admit of much, though by no means clear-cut, or mutually exclusive, subdivision.

In proceeding to subdivide the organic tongues, we must be content to place a language under that head to which its phenomena seem most prevailingly and consistently to refer it If, for example, a language with inflecting affixes (*i e* either suffixes or prefixes) appears *in a marked degree* to preserve root and affix distinguishable from each other, we may refer it to a class called 'agglutinative,' though it may exhibit no few departures from that principle and may appear at times as 'amalgamating' as the amalgamating tongues So also *vice versa* In other words, the classification is one rather of ideal types, to which, in practice, existing languages conform but partially. The ascription of a given language to a given class is often to be made on the ground that it is less removed from the norm of that particular type than from any other

Accepting for convenience the distinction (which is not fundamental, but is worth recording as a phenomenon in extant fact) between 'agglutinating' and 'amalgamating' as above defined, while reserving the term 'inflexional' to include both species, we may divide the organic tongues with approximate correctness as follows —

A. INFLECTED—

    I **Amalgamating**, *without internal dynamic change—*
        (*a*) **Synthetic** (Sanskrit, Greek, Latin, Gothic, etc)
        (*b*) **Analytic** (English, Persian, and most modern Indo-European languages in various measures).

2. **Amalgamating**, *with internal dynamic change*—
   - (*a*) **Synthetic** (old Semitic)
   - (*b*) **Analytic** (later Hebrew, etc, to a certain extent).

3. **Agglutinating**—
   - (*a*) **Suffix-Agglutinating** (*e g* Ural-Altaic).
   - (*b*) **Prefix-Agglutinating** (*e g.* Bantu).
   - (*c*) **Suffix - and - Prefix - Agglutinating** (*e g.* Malay).
   - (*d*) **Pronoun-Incorporating** (*e g.* Basque).

B. POLYSYNTHETIC OR HOLOPHRASTIC (the American Indian languages)

CHAPTER VI

THE CLASSIFICATION OF LANGUAGE (*continued*)

B   Genealogical Classification

WHEN a more or less close examination of a number of
languages shows that they all participate largely in a
common stock of word-material, that is to say, when they
contain a large proportion of words, or at least root-elements
of words, in common, especially in the names of familiar
and ordinary things, creatures, operations, family relations,
etc, and in their numbers, pronouns, and other everyday
elements of speech, a notion is naturally formed that the
languages in question may be historically related to each
other, in the sense that they may be all descended ultimately
from a common source, to which they could be traced back
if we were in possession of each step of their history.   In a
comparison of the Romance (or Neo-Latin) languages—
French, Spanish, Portuguese, Roumanian, Italian, and their
cognate dialects—we know from the facts of history, as well
as from the data of language, that they represent so many
local developments of the popular Latin.   Probably no real
harm is done by calling them 'sisters' to each other and
'daughters' of the Latin of ancient Italy.   Philosophically
considered, however, they are simply so many varied shapes
which the popular Latin in the course of its development
has taken upon itself through the working of different
conditions in different localities , but, with this fact clearly
grasped, there can be no objection to the current figure of

speech, according to which they form a family with a common parent   Similarly, the relationship between English and certain continental Teutonic tongues is rendered the more conclusive by the historical fact that the Anglo-Saxons were originally tribes of Angles, Saxons, etc., inhabiting continental Germany before they transported their language, or rather their several dialects, into Great Britain.

In these two instances the data afforded by the languages themselves are corroborated, and their indications rendered certain, by the further data of history.   Yet, even supposing that history had been silent in each case, and that the philologist simply met with the Romance languages, or the Teutonic languages, as they actually exist, without any of the knowledge which we now possess of the former extent of the Roman Empire or of the migration of the Angles, Saxons, and Jutes, he would nevertheless be at once and necessarily impressed with the mere amount of common material contained in French, Spanish, and Italian, and he could not resist the notion that these languages were probably related to each other by actual historical pedigree, or common descent   Nor could he resist a similar impression in 'regard to English, Dutch, and German   Nevertheless, whereas the empirical observer would be quick to assume that the correctness of such a notion was self-evident, in view of the large proportion of similar words employed in similar meanings by the languages under survey, the scientific student will refrain from asserting their genealogical connection to be by any means certain until he has looked under and beyond the most striking correspondence of vocabulary.   To him that connection is as yet entertained merely as a hypothesis with much *prima facie* likelihood. The philologist is aware that one language may simply borrow a very large proportion of its vocables from another language, with which it may originally have had no material in common   These vocables, whether phonetically adapted or not, may have become so thoroughly assimilated into the current speech of the borrowing language that all sense of

their foreign origin is lost, and they may gradually oust from use the native words which once covered much the same ground Hence a language which has borrowed liberally may contain $x+y$ words, of which x are borrowed from foreign sources and y represent the remains of the genuine native diction.   It may conceivably happen (though the occurrence is not frequent) that under x there come to be comprised a large proportion even of the words in frequent use.   A hasty or superficial examination of the language, particularly in its literature, might therefore easily result in a fancy that it was directly, and from the first, related to the speech from which it had borrowed the x words, whereas in reality its genealogical connection is with some other language, of which the vocables are more in correspondence with those which we have called y

Modern Persian, which is an Indo-European tongue in point of origin, has been so freely grafted with Arabic word-material that it might on the surface present the appearance of being an offshoot from the Semitic family.   Japanese, which is not cognate to Chinese, long encouraged, though not to so great an extent, the borrowing of Chinese terms ; and of all languages which have been brought for any length of time into active contact with others, the generalisation can be made, that their vocabularies have lent and borrowed in the process.   English, indeed, if we go back far enough, is in truth cognate to Latin and therefore to French, as well as being cognate to Teutonic in general and therefore to German , but the degree of its historical relationship to German is very much more immediate than to Latin and French Nevertheless English has indulged at different dates in such comprehensive borrowings from French and Latin that a superficial comparison of mere dictionaries might possibly group it in the first instance with these tongues rather than with German Thus instead of its proper scheme of pedigree

```
                    Indo-European
                         |
        ┌────────────────┴────────────────┐
        |                                  |
      Latin                          Old Teutonic
        |                                  |
        |                            ┌─────┴─────┐
        |                            |           |
    French, etc                  English     German
```
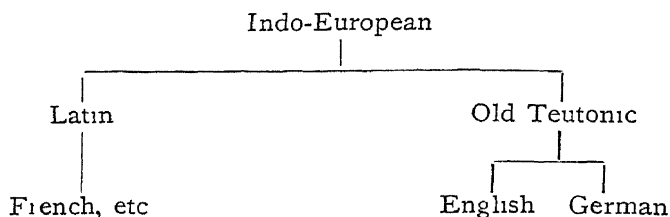
we might, from merely counting the words in the dictionary
and in the absence of historical information, be led to assume
as probable an *incorrect* affiliation

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                    Indo-European
                         |
        ┌────────────────┴────────────────┐
        |                                  |
      Latin                            Teutonic
        |                                  |
   ┌────┴────┐                             |
   |         |                             |
French   English                        German
```
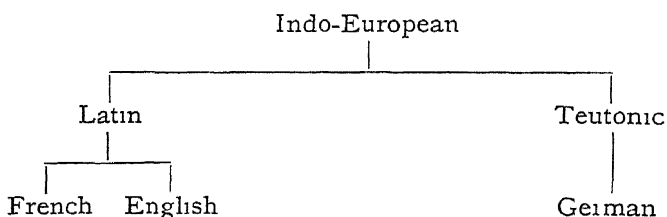
In this instance we should, it is true, chance to be relating
languages which are actually relatives, though we should be
relating them in the wrong degree.   But in other cases, such
as that of Persian with Arabic, we should be claiming
original community of linguistic descent where there was
none, but only contamination of a language of one stock by
material derived from a language of another and quite alien
stock

    It might perhaps be argued that word-material is, after
all, the most prominent and essential constituent of language,
and that, therefore, any speech which went on to borrow the
larger portion of its vocables from a foreign tongue would
ipso facto throw over its original relationships and become
adopted into that family, or branch of a family, to which the
foreign tongue belonged.   It might, for example, be asked
how far English would have to increase and freely use its
borrowings from Latin and French before it ceased to be
fairly classifiable as Teutonic.   A people may continue to
be racially much the same as ever, while its language may

gradually be replaced by one of alien derivation. Thus it does not follow (it might be urged) that, because the Anglo-Saxon dialects preceded modern English and were spoken by tribes of Germanic extraction, therefore modern English, even with all its additions and alterations, is still at the present day akin to German in a closer degree than it is to French   We must not—it will be said—confound the original and propagated kinship of the English and Germanic *peoples* with any necessarily permanent kinship of their *languages*   Old English was distinctly Teutonic, but modern English is by no means characterised with equal distinctness. Language consists of words used, and, if we reject one set of words in favour of another, our language is no longer the same in extraction   If the actual words of the vocabulary are not the criterion of genealogical relationship, where is the criterion to be found?   Given that modern Persian contains $a + b$ words, of which a are Semitic and b are Indo-European, how are we to decide whether Persian, as now actually spoken, belongs to Semitic or to Indo-European, except from the numerical proportion of the words contained in a and b respectively?

Before answering this question there is one prime qualification to be made in connection with the statistics as to the relative proportions of native and borrowed vocables A language in the proper sense is " that part of the aggregate of the language of the individuals " (who are considered as speaking the said language) "which is supported by the usage of the majority" (Whitney)   The living English or French language, for example, is not the language as represented by the *littérateur*, the scientist, or the lawyer ; neither is it the language of any special locality, district, or class   It is not a language in which all the words of the dictionary habitually play equally prominent parts, or are equally understood by the majority.   In actual fact some members of the vocabulary are used everywhere, every day, and by every one, such as ' I,' ' we,' ' me' ; ' three,' ' four,' ' five ' , ' go,' ' do,' ' give ' ; ' good,' ' bad,' ' best ' ; ' father,'

'town,' 'field' Others are sufficiently frequent over all parts of the linguistic area, and are universally understood, though not equally employed, such as 'courage,' 'sorrow,' 'natural,' 'ornament,' 'forgive,' 'saint,' 'receive,' etc Others are comparatively rare, used habitually only by the learned, and require explanation for the majority, such as 'commutation,' 'philosophical,' 'rhetoric,' 'incipient' Yet others are of altogether exceptional occurrence, such as the strictly technical words of the sciences and arts. It must be obvious that the character of the vocabulary of the English or French language at any given moment, depending as it does upon the question what words are *actually being spoken* at that moment by Englishmen and Frenchmen, and not upon what is being written by them, is determined mainly by the words in the first two groups The 'language' consists to the philologist of what is habitually spoken and habitually understood by the people at large Perhaps it is not always possible to discover precisely how much of the vocabulary authorised by the dictionaries does fall under this definition. It is, however, possible in the case of current and well-known tongues to arrive at a reasonable opinion upon the point, and no person competent to deal with French, English, or German philology would feel seriously embarrassed by the question This being granted, it becomes evident that a mere statistical statement of the total number of words existing in a language, and of the proportion of 'dictionary' words connected with one family or group to those connected with another family or group, is fallacious as a guide to the character of the vocabulary as actually distinguishing the language If the English lexicon contains x 'classical' and y 'Teutonic' words, the question still remains to be asked how large a proportion of the words daily current in the mouths of average Englishmen is drawn from x, and how large a proportion from y. And inasmuch as in the first of the four groups above mentioned, *i e* in those words which are spoken everywhere, every day, and by everybody, the Teutonic

element (*y*) does immensely preponderate, while the adopted element (*x*) becomes more and more considerable only just in proportion as we depart from 'English as it is spoken,' it must be manifest that the character even of the vocabulary of English must be put down as unequivocally Teutonic On the ground, therefore, of word-material alone the affiliation of English would be to a Teutonic and not to a Latin parentage, even if the history of the language were lost.

But word-material is far from being the only subject of investigation. A language being, as we have observed, made up of sentences, in which the special application of the meaning of a word and its relation to the other words are expressed by those inflexional or other devices known as 'grammatical,' there may naturally be presumed to exist in languages genealogically akin to each other a greater or less measure of similarity in such devices In proportion as the connection of two languages is more immediate and recent, the devices may be expected *a priori* to show more obviously a common starting-point We should, therefore, look not only for a common basis to the vocabulary, but also for a common basis to the grammar The close correspondence which we find in the Romance languages in such parts of the verb-system as the French *j'aurai, tu auras, il aura*, and the Italian *avrò, avrai, avrà*, or in the French *j'ai vu*, Italian *ho veduto*, etc, is explainable, not from any special similarity of psychological operations in the French and Italian minds (though that may possibly also exist to some extent), but from an equal original participation in the vulgar Latin future system *habēre-habeo*, and the perfect system *habeo vidūtum* Similarly, the correspondence of flexion between the German possessive case *des Mannes* and the English 'the man's' is due to an equal original participation in a Teutonic scheme of declension in which the *-es* played a prominent part. There is no trace whatever in current English or German of a compound future analogous to the

French or Italian , nor is there any trace in current French or Italian of the possessive in *s* which marks the Teutonic. A detailed examination of the remains of flexion in English in the way of declension and conjugation would, even apart from our historical knowledge of its older forms, leave no doubt that it was grammatically characterised as belonging to the Teutonic rather than to the Romance branch or group of tongues

Now, though the subject of mixture in language requires separate treatment, it is almost unanimously admitted by philologists that, however large a borrowing of foreign vocables may take place, there is no satisfactory evidence that foreign grammar is ever borrowed to any appreciable extent by a truly live and spoken language   The utmost that can be effected grammatically by the influence of one language upon another is to assist in breaking down the unessential elements of an old system   The language so influencing does not go on to impose its own grammar, or, if it does so, it is only within a narrow social or literary sphere of conscious imitation and artificiality, which leaves little or no trace upon that which we have defined as the real language of a people   This was the case with the 'Graecisms' of the Augustan writers of Latin   Norman French no doubt helped to break down the less useful or systematic Teutonic inflexions in English, which were already on their way to decay, but of its own grammar it has left us practically nothing   The prevalence of the English plural in *s* is, indeed, frequently attributed to French influence, but is so attributed only in ignorance of the facts   In Persian the only distinct case of grammatical borrowing from Arabic is that of certain plurals in *-āt*, which, however, are found almost solely with words of Arabic origin, and are little more characteristic of Persian than plurals like 'phenomena,' 'beaux' are of English

On the *positive* side, similarity of grammar, therefore, affords an even more trustworthy evidence of original relationship than similarity of vocables, which may be freely

borrowed   On the *negative* side the matter is not so simple.
It is usual to assert that a demonstrable resemblance of
grammar must be a *sine qua non* of genealogical connection
If this means that, where we do not possess the past history
of a language, it is unsafe to take even a considerable
similarity of vocabulary as a sufficient and sure criterion,
when there is no further support of grammatical similarity,
the statement may be taken as a salutary caution   But if it
means that languages *cannot* be genealogically related unless
they still possess demonstrable grammatical similarity, it is
incorrect, as a little consideration will show   English has
gone very far in the direction of analysis, and it would take
but a few steps to make it so destitute of flexion as to leave
no trace of its former connection in that respect with
Sanskrit or Greek   It thus appears that though, without the
argument of distinct grammatical correspondence, it may be
difficult to prove the positive, on the other hand the absence
of such correspondence cannot demonstrate the negative
In the case of languages whose separation has been com-
paratively recent the evidence of grammar is generally
procurable at once along with that supplied by the vocabu-
lary.   In a comparison of Italian, Spanish, and French, of
English, Dutch, and German, of Hebrew and Arabic, it springs
readily to the eye, and, when combined with the data of the
word-material, renders each linguistic connection absolutely
assured   On the other side, inasmuch as no language
remains stable in its grammar any more than in its words
and their pronunciation, but each passes through a more or
less rapid evolution of its own, it is a fact easily compre-
hended that languages which are only akin in a less
immediate degree (such as that of distant cousins or of a
comparatively remote ancestor to its descendants) will
perhaps present but few salient points of grammatical
resemblance.   They may require to be placed in different
morphological classes or sub-classes as above described   A
wholly synthetical tongue may become partly synthetical,
partly analytical, may then pass into one mainly analytical,

and thence reach an absolutely analytical or positional stage. It requires the acumen of an expert philologist to detect the few traces of Indo-European synthetic grammar which still hold their ground in English So far as these exist, they would, if required, be of value in establishing the affiliation of English, but it is quite conceivable that in the further evolution of the language they may cease to exist altogether

It is manifest, therefore, that a language which sprang from source A, and carried thence both its original grammar and its original vocabulary, may subsequently borrow a large portion of its word-material from source B, and may also by its own natural development modify its grammar past recognition In such an instance the philologist who met with the language without its history would possess no criterion of its proper affiliation, except that which was derived from discovering which parts of the vocabulary were its bed-rock. Those words would naturally be mainly derived from stock A. That criterion would, no doubt, be scientifically something less than conclusive; nevertheless, it would happen that the theory based upon it would be correct The language would be actually descended from A, and yet its supposed *sine qua non* of grammatical similarity would be conspicuously absent.

To sum up the considerations urged in the above paragraphs. We may lay it down that, apart from historical data, an entirely conclusive genealogical classification of languages depends upon the mutual support of two criteria, namely, similarity of the elements of what may be called the working part of the vocabulary, and similarity of grammatical forms and devices. Without the latter the connection is not disproved, but, on the other hand, it cannot be indubitably demonstrated by the former alone, inasmuch as the borrowing of foreign vocables is easy in theory and frequent in practice, and might conceivably affect (though it rarely does) even the commonest words. In a case where the elements of the

working part of the vocabulary are fairly divided between resemblance and non-resemblance to some other given speech, the decision will lie with the grammatical criterion, if it exists.

Here a further remark of much importance must be made concerning the cognate elements in the vocabularies of languages which are genealogically related—that is to say, in regard to those ' roots,' words, and parts of words which are common to such tongues It is that such common elements will not necessarily, nor even frequently, but, on the contrary, with great rarity, appear under identical forms and with identical sounds in any two of the languages concerned If A, B, C are kindred speeches, each lineally inheriting much of the vocabulary of an original common ancestor X, we must not look to find a given root or word appearing in A exactly as it appears in B or in C.   Rather, if it did so appear, we should mostly have good grounds for suspecting that the word, in the state in which we meet it, was actually borrowed by A from B or C, or *vice versa*, and not inherited directly from the original source X.   Every language exhibits ' phonetic laws ' of its own, which operate with great, if not invariable, regularity upon all the material included in the language, so far at least as it is included by direct inheritance and not by borrowing   The phonetic laws of language A will determine an original root or word to one shape, while those of B are determining it to another.   For this reason the relationship to each other of words in languages A, B, C, will often be by no means obvious upon the surface.   The Greek word βοῦς (*bous*) is etymologically identical with Sanskrit *gāuš*, despite the existing differences in the aspect and pronunciation of the words , and the English ' cow,' German *Kuh*, are no less to be referred to the same original, which it is customary to postulate as **gōu̯s* Each word, *bous*, *gāuš*, or *cow*, is the proper phonetic representative in its own language of the original word **gōu̯s*   It is the shape which that word would naturally take upon itself

during its transmission from generation to generation in the mouths of a particular line of speakers   If in English or German we had met with †*bow* or †*gow* (instead of *cow* or *Kuh*) as the name of the animal, we should, with our knowledge of the phonetic laws of those two languages, have been practically certain that such a form was borrowed, from the Greek perhaps (if †*bow*), or the Sanskrit perhaps (if †*gow*). Similarly, the word 'ten' is in Greek δέκα (*deka*), in Latin *decem*, in Sanskrit *daśa*, and in Gothic *taihun*   None of these representations is identical with another, but their evidence of direct inheritance from a common source is made all the surer thereby, since these are precisely the forms into which each language would respectively transmute the original word **dekṃ*   Had the words been exactly alike, or almost so, there would have been every reason for suspecting that there had been borrowing one way or the other in comparatively recent times, and it would therefore be unscientific to use the common possession of such an identical word as a proof of the common origin of the languages   The French *père* and *mère* correspond to *padre* and *madre* in Italian. These are the natural phonetic representatives in the two tongues respectively of the Latin *patrem* and *mātrem*   Had French shown the form *padre* or *madre*, we should have had no hesitation in declaring such a word to have been taken directly from Italian, and not to owe its existence in French to direct inheritance.

What we have to expect, therefore, in comparing the vocabularies of several languages with each other for the purpose of establishing genealogical classification, is not exact identity of shape, but that *correspondence* of shape which might be in a large measure, if not in every detail, predicted in the light of the phonetic laws peculiar to each language   The form naturally corresponding to γένος (*genos*) of Greek and *genus* of Latin would be in Sanskrit *janas* and in English *kin*.   These forms, indeed, might be predicted, and the philologist is entirely satisfied of the original identity of these words (from Indo-European **genos*),

whereas he would have been altogether incredulous in the case of an English form †*gin*, except on the supposition that English had borrowed that form from Greek or Latin and corrupted its vowel.   For this reason he rejects from his list of corresponding words such falsely obvious instances as *call* and the Greek καλ-ῶ (*kal-ō*), despite the identity of meaning   He refuses to admit *whole* as the native English word akin to Greek ὅλος (*holos*)   If English has not simply borrowed these two words (and it has not), they must be quite distinct in origin from the Greek.   On the other hand the philologist will readily accept *sweat* as the natural representative in English of the original root whose natural representative in Greek is seen in ἱδ-ρώς (*hid-rōs*).

It is indeed true that, in the first instance, while feeling his way, a student, meeting with a group of languages which appear to contain a largely similar vocabulary, will place side by side from the various tongues those words of approximately the same sense which possess at the same time appreciably similar shapes   He will put the Latin *medius* beside the Greek μέσος (*mesos*), Sanskrit *madhyas*, Gothic *midjis*, and he will also—wrongly as it happens—put the Greek θεός (*theos*) beside the Latin *deus*, Sanskrit *dēva*.   He will set the Greek φέρω (*pherō*), Latin *fero*, English *bear*, Sanskrit *bharāmi* side by side, and no less—though wrongly again—the English *call* side by side with the Greek καλεῖν (*kalein*)   When, by the aid of a sufficiently convincing list of such correspondences, he has arrived at the conclusion that a genealogical connection of the tongues concerned is highly probable, he will proceed to apply the other criterion of grammatical correspondence.   If this test further establishes the theory and renders the relationship practically certain, it becomes time to work over the list of word and root correspondences again, with a view to discovering the laws which in each language determine the particular shape which the root or word will adopt   So soon as these laws are discovered and the regularity of their operation made apparent (as it will soon be), a large number

of other correspondences of a less obvious but no less sure a character will spring to the light and corroborate the previous conclusions But, on the other hand, it will become equally apparent that a number of the most obvious-looking correspondences are not correspondences at all, and the notion that θεός (*theos*) is the same word as *deus* and *call* as καλεῖν (*kalein*) becomes quite untenable. The philologist thereupon erases all such pseudo-equivalents from his lists, while he inserts as sound and demonstrable others as unlikely-looking as Sanskrit *panca*, English *five*, Latin *quinque*, Greek πέντε (*pente*), English *come*, Latin *venio*, Greek βαίνω (*baino*), English *goose*, Latin *anser*, Greek χήν (*chēn*).

It is upon lists thus scientifically assured that is based the 'similarity of vocabulary' which is one of the two criteria for the classification of languages according to nearer or more remote degrees of historical relationship.

In the classification of languages according to their genealogy there is still much to be done It would be eminently desirable, if it were possible, to establish definitive families of languages, and to work out in each family the precise pedigree of the speeches belonging to it, showing the closer and more remote connections of the individual dialects and languages in the several branches of the family-tree. It is an instinctive aim of the human intellect to arrive as far as possible at unity, whether of origin or principle, in the phenomena which it encounters But true science does not permit itself to be carried away by this desire, and the science of language is at present so far from finding adequate support for the opinion that all languages are ultimately referable to a common parent, that it cannot even begin by referring them to any small number of families. The conclusions of science must not proceed beyond the evidence of its data, and, in comparative philology, the method of rigorously comparing the vocabularies and grammatical structures of languages as we find them must not be corrupted by any preconceptions as to the unity or diversity

of origin of language in general   In actual fact the application of this method to the various speeches of the world does not bring us very far on the road towards unification. Many larger or smaller groups and a few considerable families of languages are discoverable, but even the more sanguine students are unable to reduce existing speeches to fewer than eighty or ninety divisions, between which no genealogical connection is yet warranted by the only criteria which science possesses   It must be confessed that in the case of many of the barbarian and savage dialects, as, for example, among the African negroes and American Indians, the information is very scanty and ill-digested, and a complete examination of these tongues might result in either an increase or a diminution of the reasoned divisions into linguistic groups   On the whole, the estimate of Friedrich Muller, which places the number of apparently unconnected groups at about one hundred, may be taken as approximately correct in the present state of our knowledge.

Chief among the families as yet more or less clearly ascertained are the Indo-European, the Semitic, the Ural-Altaic, the Malayo-Polynesian, the Bantu of Southern Africa, and the Dravidian of Southern India   Fuller details of the contents of these families, as well as of less definite or less important groups, will be given in the following chapters Meanwhile it is expedient to illustrate by a few examples the correspondences of vocabulary and grammar upon which genealogical connection is established in the typical instance of Indo-European

In this family are included Sanskrit (the ancient language of Northern India) and its descendants ; the ancient Eranian dialects, old Persian and Zend, with the modern speeches related to them , Armenian ; Greek , Albanian , the old Italian dialects, Oscan, Umbrian, and Latin, with the Neo-Latin or Romance tongues , Celtic, with its several branches in Ireland, Scotland, Wales, and Brittany , Teutonic, with all the High and Low German tongues , Lithuanian ; Lettic , and all the branches of the

Slavonic languages　It may be difficult to find words and 'roots' which have remained common to each and all of the speeches included under these designations, but it is an easy matter to produce long lists of words and 'roots' which are found distributed over a large number of them, under the several phonetic shapes which are proper to the several languages　One word, or its chief element or elements, will be found represented in languages A, B, C, D, G, but will be absent in E, F, H, etc , another in A, C, D, E, H, but absent in B, F, G , a third in A, C, E, F, G, but absent in the rest, and so on , until it will be discovered that each possesses much in common with any one of the rest, although for the most part, according to the greater or less immediateness of its historical connection, it will be marked by closer correspondence with some than with others in this respect

　　Among words descriptive of familiar creatures, objects, qualities, operations, and relationships, and among pronouns and numerals, may be adduced such examples of widespread agreement as the following —

'Horse'	Skt *aśvas*, Zend *aspa*, Gk ἵππος (*hippos*), dialectal ἴκκος (*ikkos*), Lat *equus*, Goth *aihva*, Irish *ech*, Lith *asswa*
'Pig'	Skt *sû(-kara)*, Zend *hū*, Gk ὗς (*hūs*) and σῦς (*sūs*), Latin *sūs*, O. H. Geim *sû*, (Eng *sow*)
'Sheep'	Skt *aviš*, Gk ὄϜις (*owis*), Lat *ovis*, Eng *ewe*, Irish *oi*, Lith *awis*
'Cattle' .	Skt *paśu*, Lat *pecu*, Goth *faihu*, (Germ. *Vieh*)
'Night'	Skt *naktiš*, Gk stem νυκτ- (*nukt-*), Lat *noct-*, Goth *nahts*, Lith *naktis*, O Slav *nosti*
'Mead' (wine)	Skt *madhu*, Zend *madhu*, Gk μέθυ (*methu*), Eng *mead*, Lith *midus*, O Slav *medu*
'Yoke'	Skt *yugam*, Gk ζυγόν (*zugon*), Lat *iugum*, Goth *iuk*, Lith *jungas*
'Red'	Skt *rudhiras*, Gk ἐ-ρυθρός (*e-ruthros*), Lat *ruber*, Goth *rauds*, Ir *ruad*, O Slav *rudru*.
'Father' ·	Skt *pitar*, Gk πατήρ (*pater*), Lat *pater*, Goth *fadar*, Ir *athir*
'Mother'	Skt *mâtâ*, Armen *mair*, Gk (Doric) μάτηρ (*mater*), Lat *mater*, O H G *muotar*, Ir. *mathir*, O Slav *mati*
'Brother'	Skt *bhrâtar*, Zend *brâtar*, Gk. φράτηρ (*phrater*, 'clan-

brother '), Lat *fräter*, Goth *bróþar*, Ir *bráthir*, Lith *brotis*

.' Mother-in-law '   Skt *svašru*, Armen *skesur*, Gk ἑκύρα (*hekurā*), Lat *socrus*, Goth *svaihrō*, O Slav *svekry*

' Plough '   Gk ἀροῦν (*arounj*, Lat *aräre*, Goth *arjan*, Eng ' ear,' Ir *airim*, Lith *ar-ti*

' Grind '   Gk μύλη (*mulē*, ' mill '), Lat *molere*, Goth *malan*, Ir *melim*, O Slav *melja*

' Bear ' (verb)   Skt *bharāmi*, Armen *berem*, Gk φέρω (*pherō*), Lat *ferō*, Goth *baira*

' Know '   Skt *jnā-ti*, Gk γι-γνώ-σκω (*gignōskō*), Lat (*g*)*nōscō*, Eng *know*, O Slav *zna-ti*

' See ' (know)   Skt *vēda*, Gk (F)ιδεῖν, (F)οῖδα, ((*w*)*idein*, (*w*)*oida*), Lat *video*, *vīdī*, Eng *wit*, Germ *wissen*

' Thou '   Skt *tvam*, Armen *du*, Gk (Doric) τυ (*tu*), Lat *tū*, Goth *þú*, Welsh *tu*, Lith *tu*, O Slav *ty*

' Six '   Skt *šaš*, Gk ἕξ (*hex*), Lat *sex*, Goth *saihs*, Welsh *chwech*, O Slav *ses-te*

' Ten '   Skt *daša*, Gk δέκα (*deka*), Lat *decem*, Goth. *taihun*, Welsh *deg*, O Slav *desen-te*

For very close correspondence of grammatical structure we may compare portions of the conjugation of the verb and of the declension of the noun in the synthetic languages of the family   It is not, indeed, to be understood that each form as it actually appears in a given language is in all respects the phonetic equivalent of the form which appears in another language for the same person or case   Certain analogical influences have been at work upon each language during the course of its development, and have prevented such absolute regularity.   The correspondence, however, is fairly, or even strictly, preserved in a sufficient number of instances to render indubitable the original identity of the inflexions employed.   Thus the present indicative of the verb ' to bear ' appears in the closely parallel shapes—

Sanskrit	Greek	Latin	Gothic
bharā(*mi*)	φέρω (*pherō*)	*ferō*	*baira*
*bhar*asi	φέρεις (*pher*eis)	*fer*s	*bair*is
*bhar*ati	φέρει (*pher*ei)	*fer*t	*bair*iþ
*bharā*mas	(Doric) φέρομες (*pher*omes)	*fer*imus	*bair*am
*bhar*atha	φέρετε (*pher*ete)	*fer*tis	*bair*iþ
*bhar*anti	(Doric) φέροντι (*pher*onti)	*fer*unt	*bair*and

The singular of the present indicative of the verb 'to be' is—

Sanskrit	Greek	Gothic	Lith	O Slav
asmi	εἰμί (*esmi*)	im	esmi	jesmi
asi	εἶ (ἐσσί) (*ei,essi*)	is	esi	jesi
asti	ἐστί (*esti*)	ist	esti	jesti

The singular of the present optative of the same verb—

Sanskrit	Greek	Old Latin	Gothic
syām	εἴην (= *ἐσ-ιη-ν*) (*esyēn*)	siem	sijan
syās	εἴης (= *ἐσ-ιη-s*) (*esyēs*)	siēs	sijais
syāt	εἴη (= ἐσ-ιη-τ) (*esyēt*)	siet	sijai

The noun 'horse' is declined in the singular—

	Sanskrit	Greek	Latin
Nom	asvas	ἵππος (*hippos*)	equus (older *equos*)
Voc	asva	ἵππε (*hippe*)	eque
Acc	asvam	ἵππον (*hippon*)	equum (older *equom*)
Gen	asvasya	ἵπποιο (*hippoio*)	[equī]
Abl.	asvād		equō (older *equōd*)
Dat	asvāya	ἵππῳ (*hippōi̯*)	equō

The nominative 'I' and the accusative 'me' are respectively—

	Sanskrit	Greek	Latin	Gothic
'I'	aham	ἐγώ(ν) (*egō(n)*)	ego	ik
'me'	mā	με (*me*)	mē	mi-k

There can be no other reasonable explanation of this close and consistent correspondence of vocabulary and structure in a series of languages than the obvious one, that all these speeches alike are derived from one and the same source— a primitive language of which they are the descendants in various degrees and with various interrelations. There is no necessity, nor would it be true (as will be pointed out later), to assume at the same time that those who speak the related languages are also themselves all alike descended from a common stock. The question is here one of the speeches, not of the speakers. The ancestors of those who

now speak Indo-European tongues belonged to various races, which at one time possessed languages equally alien. But this is no more than to say that such races have at some time, or rather during some period, wholly unlearned their primitive speech and wholly adopted the Indo-European, just as a pure Magyar by race may be a pure German in speech, or a South American Indian may speak Spanish as his only tongue In whatever way it has come about that so many peoples ethnologically alien now speak these languages genealogically akin, the fact remains that the languages themselves did unmistakably flow from a common source

The same principles of investigation, applied to Hebrew, Arabic, Aramaic, and other tongues, have resulted in the establishment of a 'Semitic' family of languages, within which the correspondence is strikingly close , so much so, indeed, that they are one and all related in quite as intimate a degree as are the various speeches sometimes contained in a single branch of the Indo-European family.   In other words, the extreme divergences of the Semitic languages represent no wider a separation than can be found inside the Teutonic or the Slavonic branch alone of Indo-European It is, for instance, part of the structural method of Semitic to agglutinate the possessive pronoun to the noun in such a way that a paradigm, or kind of declension, is formed of such a system as 'my house,' 'thy (masc) house,' 'thy (fem) house,' 'his house,' 'her house,' 'your (masc) house,' 'your (fem) house,' etc   Not only is this structural habit common to such languages as Arabic, Aramaic, Assyrian, Hebrew, 'Ethiopic,' but the forms of the agglutinated elements are exceedingly close to each other, and in a large measure identical   Thus the singular endings are respectively—

	Arabic	'Ethiopic'	Hebrew	Assyrian	Old Aramaic
'my'	-ī (-ya)	-ya	-ī	-ī (-ya)	-ī
'thy' (masc)	-ka	-ka	-khā	-ka (-k)	-k
'thy' (fem)	-kı	-kī	-kh	-kı	-kī
'his'	-hu	-hū	-hū	šu	-h
'her'	-hā	-hā	-hā	ša	-h

The correspondence of the numerals (which take both a masculine and a feminine form) may be judged from such instances as—

'Three' (fem)   Arab *thalāthu*, Eth *salās*, Heb *šālōš*, Assyr. *šalšu*, Aram *tlāth*

'Five' (fem).   Arab *(c)hamsu*, Eth *(c)hames*, Heb *hāmēš*, Assyr *hamšu*, Aram *hameš*

Similarly, the relationship of the Bantu family of South African languages, which extends from the eastern side of Cape Colony to beyond the Equator and across to the Atlantic, is clearly marked both in the use of forms and in the working elements of the vocabulary Thus—

'Man'   Zulu **umu**ntu, Kafir **um**ntu, Sesuto **mo**tu, Congo **omu**ntu, Herero **omu**ndu.

'Men.'   (in the same languages respectively) a**ba**ntu, a**ba**ntu, **ba**tu, **oa**ntu, **ova**ndu

'With the man'   Kafir **ng**omuntu, Herero **na**mundu, etc

To add further instances in illustration of the kinds of similarity demanded for the scientific ascertainment of a linguistic family is needless We are at present concerned only with the method of investigation. The collection and examination of the exact details of corresponding words and forms belong to the special philology of each family. The general results hitherto arrived at by the united efforts of experts will be summarised in the following chapters.

CHAPTER VII

GENERAL SURVEY OF LANGUAGES

THE following survey of languages which either exist in actual speech or, being extinct, are known in a greater or smaller degree from their literatures and other records, is not intended to be an exhaustive enumeration It is not yet the case that the entire field of language has been so thoroughly explored that we can in all instances distinguish a mere dialect from an independent speech, relate all kindred dialects and speeches to each other definitively, or attach to each either its truest morphological or its truest genealogical designation Particularly upon many of the aboriginal languages of North and South America, of parts of Africa, and of Oceania, as well as upon the speeches of nomad populations of North and Central Asia and upon the isolating idioms of the South-East, there is much to be done before the information necessary to the philologist can be said to be obtained.

It appears more profitable, therefore, to avoid doubtful detail and to dispense with the tabulation of unimportant dialects in lists which would be likely to represent so many mere names without adequate notions attached to them. By the word 'unimportant' it is not implied that any dialectal variation of any language is without a certain value, provided its nature and extent be fully apprehended and therefore made capable of contributing something to the data of linguistic philosophy Philologically, a language or dialect becomes important just in proportion as its contribu-

tion to this end is a material one, whether the language or
dialect be that of a numerous or civilised people or not
Nor is it implied that, from an ideal point of view, there can
be such a thing as too exhaustive a subdivision of speeches
from families into groups, from groups into branches, from
branches into languages, from languages into dialects, and
from dialects into sub-dialects.   On the contrary, such con-
tinuous distinction is an essential part of the scientific
method, so long as the *differentiae* which supply the motive
for subdivision are clearly realised and clearly stated.   In
that case they all teach something   They may either
present new phonetic, structural, or semasiological phenomena,
or else they may corroborate generalisations arrived at from
previous material   When, however, the points of divergence
are not so apprehended and set forth, the mere fact that
certain dialects have a local existence and a name may be
described as philologically 'unimportant.'   We may accord-
ingly content ourselves with a brief account of the principal
families and groups of languages as yet fairly ascertained,
and a briefer indication of such speeches as are but dubiously
classified or not classified at all   In so doing it will only
be in the case of languages specially instructive by reason of
a pronounced typical character that we need enter into
descriptive details

I. The Positional or Isolating Languages of Further Asia

I. **Chinese.**—The literature of China claims to date
from as far back as the year 2500 B.C., through its sacred
books and the *Shu-king*, the official and classical history.
These works, however, were edited, and their language
probably revised, by Confucius in the latter part of the sixth
century B C.   The seat of literary production was about the
lower part of the course of the Hoang-Ho (Yellow River), in
the centre of the region in which the modern imperial
dialect, the Mandarin, is actually spoken, though, it may be

remarked, it is precisely that dialect which has since departed farthest from the ancient standard.

Such information as can be gathered concerning an earlier condition of Chinese is deduced from the literature above mentioned, the ancient phonetics being in some degree recoverable from the old poetry (which was rhymed); from some indications of pronunciation as presupposed by the written signs ; and from transcriptions of Sanskrit words by early Buddhists of China. From a comparison of the modern Chinese dialects with one another it is also possible to arrive by induction at earlier forms and pronunciations, as they presumably existed at a stage of the common language before the dialects had developed.

So far as these data can carry us, we find the language to have been structurally what it is at present, that is to say, positional and monosyllabic, with the difference that the use of 'empty' or symbolic words has considerably increased in the interval. This fact is of importance as indicating the line of linguistic ease naturally taken by a language which finds the purely positional structure inadequate to it needs. In point of pronunciation the changes have been great, and in the invariable direction of curtailment or economy of effort Thus, according to Dr Edkins, the older forms to which the modern Mandarin *yi, ta, ye* correspond respectively were *tit, dap, tik* Similarly, Mandarin drops from its pronunciation the initial *ng* of such words as *nga, ngo,* leaving only *a, o* as their representatives A natural result of such phonetic decay is that words which were once sufficiently differentiated in their sound-elements to serve without further help for the expression of different ideas, have become indistinguishable in outward shape and very often absolutely so in pronunciation In other words, 'homonyms' or 'homophones' are very numerous and remarkable for the variety of their contents. Such homonyms are by no means uncommon in English, when we admit among them (as we obviously should, seeing that language properly appeals to the ear) words of which the

pronunciation is the same though the spelling is different, such as 'way,' 'weigh'; 'so,' 'sew,' 'sow' These cannot, indeed, compare with those of Chinese either for frequency or for multiplicity of meaning Yet such ambiguities as 'sound' (= A.S *sund*, 'narrow of the sea,' and Fr *son*, 'noise') are identical in character, so far as they go, with those existing in that language The English word 'bay' may mean a certain colour, a tree, the noise of a dog, or an inlet of the sea If such words are traced back to their origins, it becomes manifest that they have been brought to their present identity of shape by phonetic decay Thus 'bay' in the four senses above mentioned corresponds to *badius, bāca, abbayer, baia*, respectively. What has occurred here may very well have occurred on a much more comprehensive scale in Chinese This may not be in every instance the one explanation of the extraordinary number of quite distinct meanings often attaching to a single Chinese word, but it is a demonstrable explanation in many cases and a plausible explanation in many more. However that may be, the material of Chinese now consists of less than five hundred different monosyllables, with which, nevertheless, all conceived ideas manage to find expression, thanks to particular principles and methods of intonation, position, and grouping. By these expedients the Chinese practically attain to a vocabulary of forty thousand words

Thus if the syllable *tao* in itself may, from whatever cause, represent such dissimilar ideas as 'road,' 'flag,' 'cover,' 'corn,' etc., and *lu* may signify 'road,' 'turn' 'gem,' 'dew,' etc, it is perhaps a clumsy, but still a fairly effectual, device to combine the two words in order to make certain the only sense which they ordinarily possess in common, and so designate the meaning 'road,' unmistakably by means of the reduplicating combination *tao lu* This procedure deserves noting as one which may conceivably have occurred in other languages. In other cases such homonyms are differentiated by the use of those 'tones' which give their sing-song character to the Asiatic positional speeches.

Theoretically there are in Chinese eight such tones, the 'upper' and 'lower' series of 'even,' 'rising,' 'departing,' and 'entering,' the difference between the four in each series being similar to that between the European customary pronunciation (the 'even'), the interrogative (the 'rising'), the surprised interrogative (the 'departing'), and the strongly insistent (the 'entering'). Such differences do not admit of representation in ordinary writing, but something of their effect may be gathered from observation of the various manners in which 'Yes,' 'No,' 'Oh,' 'Ah' are intoned in English according to the feeling and implication in each instance In Chinese, however, the tones are utilised to differentiate entirely the meaning of words, not merely the mood of the speaker. Thus *haò* ('departing' tone) = 'good,' but *haô* ('rising' tone) = 'love.' All the eight tones are met with in the Fukien dialect, but the official and literary 'Mandarin' speech employs only five, the upper series and the 'even' lower tone.

The origin of these tones is problematical It is contrary to what is known of language in general to suppose that the special tones were assigned to special meanings by any deliberate convention or conscious attempt to differentiate. It is true that a differentiation which already exists may be maintained in pronunciation, in spite of those ordinary phonetic tendencies of a language, which, if left to themselves, would have worked confusion For example, though the English phonetic tendency is to accentuate as early as possible in the word and to shift all accents forward, yet 'humáne,' 'projéct,' etc, still defer their accent in order to avoid confusion with 'húman' and próject.' But any deliberate effort to create *de novo*, or to re-create, a useful or significant difference of pronunciation between words which have once become identical in sound could only be made, if made at all, by order of some Draco who absolutely controlled a complete and uniform national system of education, and who managed to force his artificial distinction upon a generation. In actual experience no such event has ever

occurred. The differences in the tones of Chinese words must manifestly be acquired by Chinese children in infancy, just as they hear them from the lips of their elders. The same must have occurred in each generation. Consequently the tones must have become attached to the words in the first instance from natural causes, and have been thence transmitted with such faithfulness as the survival of the fittest demanded. Jespersen (*Progress in Language*) compares the use of the high and low tones in a dialect of South Jutland, by which such homonyms as *nà* ('fool'), *nā́* ('fools,' or the verb 'to fool'), *jèm* ('home'), *jēm* ('at home') are distinguished The low tones there represent earlier monosyllables (*nar*, *hjem*), and the high tones earlier disyllables (*narre*, *hjeme*) The variation in this case is purely involuntary in its evolution The first syllable in a disyllabic word is not intoned in the same way as it would be if it stood alone, and the continued existence of the tone is due to a natural survival of the necessary, and not to any conscious interference with the spontaneous development of the language.

There is something of the same kind, though not an identical phenomenon, in the case of the English 'vowel-mutation' or Umlaut Thus originally the difference of vowel-quality in *France* and *French* was due to an influence exerted on the *a* of the 'root'-syllable by a following syllable containing *i*, viz -*isc* in *Frencisc*. The mutation in *long*, *length*, was caused by the same following vowel, which has now disappeared. Had we been as ignorant of the history of English as of Chinese it would have been difficult, if not impossible, to account for this change of vowel-quality It might easily have occurred to the empiric that in *Frank*, *French*, the differentiation had been invented for the sake of the meaning In the same way as in the Jutland dialect, it may be the case that Chinese tones are an inheritance from a stage of the language when the words to which they are now attached were longer, that is, contained more phonetic material or even more syllables. Of the total

original differences the tones would be the only survivals, holding their ground of sheer necessity, and possibly becoming further accentuated, though unconsciously, in virtue of their utility.

Of Chinese grammar something has been said already. Every word consists of one syllable and one only. Using the term 'root' in the ordinary acceptation, each word is a 'root' and each 'root' a word. Such root-words admit of no modification of form, whether by means of internal change or by addition of other elements before or after the root. Inasmuch, therefore, as a root contains the idea only in its most general sense (e g *tà* conveys the unspecialised idea of 'greatness'), there is in Chinese no classification of individual words corresponding to our own division into the various 'parts of speech.' *Tà* may be employed sometimes where we should use a verb (' to be great,' or 'to make great '), sometimes for our adjective 'great,' or our noun 'greatness,' or our adverb 'greatly' It is regularly with a Chinese word very much as it is occasionally with English words like 'love,' ' walk,' when looked at in isolation from a sentence. A context is required before we can decide whether what is intended is the noun or the verb But whereas in English such identity of form is rare for even two parts of speech, in Chinese it is constant There being thus no devices for the expression of grammatical relations—of case, number, person, tense, mood—by means of suffixes, prefixes, or any form of flexion, other expedients have necessarily been developed. A language cannot exist without grammar of some kind, and the grammar of Chinese is mainly one of simple position or word-order. That order is subject, verb, direct object or complement, indirect object or complement Qualifying words (adjectives, adjectival genitives, adverbs) precede the words qualified Thus *tà* obtains its function-mark as a part of speech from its position . *tà jin,* 'great man,' *jin tà,* ' (the) man (is) great.' Similarly in *ngò* (' I ') *tà* (' strike ') *ni* (' thou '), and *ni* (' thou ') *tà* (' strike ') *ngò* (' I '), the relative positions determine object and subject. In this case

we happen to be dealing with pronouns, in which English
or French retains separate forms for subject and object
Otherwise, had the words meant *John strikes James* and
James strikes John, the device of position would have been the
same for each language, though English or French would still
indicate person, tense, and mood in the word *strikes* or *frappe*.
So *hŭa̤ pao̤ mîn*, '(the) king protect(s) (the) people', but
mîn pao̤ hŭa̤, which is the reverse, is only made the reverse
by precisely the same expedient which would be employed
in English or French

Nevertheless position alone has proved insufficient for
the necessities of the language   The danger of ambiguity
or indefiniteness has evolved its cure in the shape of those
symbolical, 'demonstrative,' or 'help' words, which the
Chinese themselves call 'empty,' in opposition to the 'full'
words, *i.e* the words which express an integral portion
of that sense which the sentence predicates   The
difference may be illustrated by the English prepositions 'of,'
'with,' 'to,' and the auxiliaries 'shall,' 'will,' which are
'empty' words in the sense of expressing no idea in them-
selves but only assisting in denoting the relations of other
words.   To all intents and purposes Chinese has, therefore,
evolved prepositions and auxiliaries which precede or follow
the words whose reference they assist.   Thus *tšĭ* (written
also *tchi̤*, *c̆i̤*, *tsĭ* by various transcribers) comes to mean 'of'
Jĭn (*džĭn*) *kiŭn*, literally 'man prince,' is, indeed, allowable
for 'prince of men,' but that meaning is made much more
definite in the form *jĭn tšĭ kiŭn*   So *mîn lĭk*, literally
'people power,' may stand for 'power of the people,' but
that notion is more commonly and with greater precision
expressed by *mîn tšĭ lĭk*   Similarly *ȳ* practically = 'with'
(instrumental), *yu* = 'to' (dative), *lĭ* = 'at,' 'in' (locative),
tsŭng, 'from' (ablative)   There is, however, this distinction
between the Chinese 'empty' words and our prepositions
The Chinese 'empty' words are recognisable predicative
roots which have come to play a subordinate part, while our
prepositions are felt to be in themselves wholly meaningless.

Thus in Chinese *ỳ čang* = 'with (a) stick,' but whereas 'with' conveys no idea in itself, the Chinese *ỳ*, when independent, is the predicative root 'use.' So *tšz* = 'place' and 'possess,' *yu* = 'give' This discoverable meaning is not, indeed, present in full force in the minds of the speakers whenever the 'root' plays this part of a relational word, and it is for that reason that Chinese grammarians have employed the term 'empty', nevertheless the step towards an emptiness as complete as that of our own prepositions is only half made Though the original meaning is obscured and in a certain measure arbitrarily transferred, it has not wholly faded out of the word, nor has the form of the word suffered So far as an empty word suffers any loss in value phonetically, it is due only to the fact that in the case of a couple of words, of which one is a 'full' and the other an 'empty' word connected with it, the two fall under one main accent, which is laid upon the 'full' root. It must be added that the cases of nouns are not the only relationships expressed in this way Thus, though it is possible for the plural sense to be inferred from the context, it is made more definite by the use of subordinate words, e.g *to* ('many'), *šu* ('number'), of which it cannot be said that they possess no meaning of their own, while, on the other hand, it cannot be pretended that they are thought of in the full value which they would possess when independent

The laws of position being unavoidably rigid, the total result of the Chinese devices is no doubt unsatisfactory to the European, who looks in literature for perfect lucidity combined with variety and other charms of style , but there is no evidence that the Chinese themselves experience any appreciable difficulty in the mere communication of thought.

Strongly marked dialectal differences, mainly phonetic, exist in various parts of China The official and literary language of the Empire is that of the Mandarin dialect spoken about Pekin and Nankin Other local varieties of chief note are the dialects of Fukien and Canton. Thus in

the province of Fukien are heard the sounds *b* and *g*, which do not occur in Mandarin (*ng* being a mere sign of nasalisation) In Canton *ki* represents an older form of the *ts* of the more northerly regions The divergences, however, are of such a kind that they do not bring into question the unity of Chinese as a language

Whether the Chinese language was always monosyllabic, or whether, at some earlier undiscovered stage, it may have possessed longer words and flexion-endings, is an open question. That there has been much phonetic decay, in the uniform direction of abbreviating words, has been already stated. It is not inconceivable that this decay has been the means of eating away a whole system of flexion and of reducing words of two or more syllables to one syllable only For both results it is natural to compare the French *roi* (with which we may treat *rois* as identical, since the pronunciation is the same) as the sole representative of *rēgem, rēgis, rēgī, rēge, rēgēs, rēgum, rēgibus* , or *ange* (*anges*) as the sole representatives of *angelus, angelum, angelōs*, etc The cases are not, of course, identical, since *roi* properly = only the accusative *rēgem*, and *rois* = only *rēgēs*, the remaining Latin cases having disappeared Nevertheless the illustration is instructive It has also been stated already that the existence of the Chinese 'tones' may perhaps be best explained from the assumption of a large amount of phonetic decay. Moreover, if the development of help-words is recent as compared with the time during which the language must have existed, *i e.* if they have only been gradually coming into use, it seems highly probable that they have been brought into employment in much the same way as prepositions and auxiliaries have been evolved in the analytical Indo-European tongues, namely, as substitutes for worn-out modes of expressing grammatical relations. If so, the old Chinese modes were not simply the mode of word-position, inasmuch as that still exists and is found insufficient

The view usually entertained is that Chinese actually

presents us with an example of language in its most crude and primitive form, namely, that of a series of simple roots at which human utterance has arrived for the expression of certain ideas, but which the speakers have not yet learned to relate organically It is then argued that the recent development of help-words is a sign that the belated Chinese is making the first step towards the so-called ' higher ' stage of agglutinative inflexion Closer argument, however, is bringing philologists rather to the opinion that the Chinese language may have actually passed through the synthetic inflexional stage, as English has largely done , that it may have lost its flexions by phonetic decay, while transferring their functions to the order of the words (as English has also done in a large measure) , but that its phonetic decay may have been too effectual in its effacement of distinctions both of meaning and relation, and that therefore the modern speech is striving to regain some of its lost precision by means of the help-words and an increasing tendency to new agglutination or combination Having secured its device of word-order (for which there must apparently be some good psychological basis, seeing that Chinese agrees with the entirely unrelated modern analytical tongues of Europe in fixing it as subject, verb, direct object, indirect object), Chinese is not likely to go the whole round once more. Rather it may work up by its own route to a condition similar to that which will belong to our own tongue in its furthest conceivable analytical completeness It is probable, not that English is working towards the condition of Chinese, but that both are working towards a common goal

It is easy to overstate the resemblance of the structure of an English sentence to that of a sentence in Chinese. Our grammar is indeed largely positional, or dependent on ' empty ' words, but we still possess certain of the more useful flexions, and above all our vocabulary, thanks to the power of compounding and to the established differentiation of its material, is so distributed over the various parts of speech that there is little chance of a confusion of nouns,

adjectives, verbs, and adverbs with each other. We possess, for instance, ' large,' ' largely,' ' largeness,' ' enlarge,' ' enlargement,' and not even a context is required to distinguish the senses which, in the case of the Chinese *tá*, are left to depend wholly upon position or help-word We need not therefore anticipate that the prosaic and styleless monotony of Chinese writing must become the fate of European literature The distribution of the vocabulary into definite parts of speech, so that a word, wherever placed, will always be recognised for the part of speech it is, gives scope for much freedom in the building of sentences , whereas in Chinese the confusion would be utter, unless there were rigidly maintained that one recognised order which alone can show whether the sterile monosyllable is to be treated as a verb or a substantive.

II. **Anamese**, the group embracing the dialects of Tonkin, Cochin China, and Cambodia, is in structural method identical with Chinese, being positional and monosyllabic. It possesses six corresponding ' tones ' Its vocabulary, however, is widely different, though in this respect the question is complicated by the fact that Chinese vocables have been borrowed very freely

III **Siamese** (or **Thai**) comprises several dialects Though monosyllabic and positional with ' tones,' its vocabulary is again distinct from both Chinese and Anamese , and in point of word-order it differs from Chinese in making the defined word precede the defining.

IV. **Burmese** (comprising various dialects of Burma, Assam, and the neighbourhood) in respect of structure agrees with Chinese, but is peculiar in its vocabulary

V **Tibetan.**—This group is by some authorities combined with the last-named, so that an affinity of the dialects of Tibet, Nepaul, Bhotan, Assam, and Burma, as well as of parts of South-West China, is distinctly claimed Tibetan is asserted to be less strictly monosyllabic than the other groups in this series.

It will be remarked that all these tongues, which run into each other geographically, exhibit, apart from their vocabularies, the closest resemblances. Their grammar is one of word-order; their words are monosyllabic, they employ, in various manners and measures, the expedient of intonation Their differences lie chiefly in the dissimilar words which they use for the same notion Considering how easily vocabulary is changed, and how unlike it may become in a few centuries between languages undeniably related genealogically, there would be no *a priori* unlikelihood that all these groups of language may have derived the impulse to their structural method and phonetic corruptions, and originally their stock of words also, from a common source, and that, while they have alike carried out the inherited tendency to positional monosyllabism, they may have worked asunder in their words, until in that respect they are languages practically alien. The English *you are a poet* is represented in German by *Sie sind ein Dichter*, and though *a* and *ein* are radically the same word, the fact can only be known from the discoverable history of older English and German, and not from the shape of the words as we now use them. For the rest, *you, are, poet*, are words quite alien to current German, while *Sie, sind, Dichter* are equally alien to current English Nevertheless, it is a fact that both the grammar and the words of *you are a . . .* and *Sie sind ein . . .* come from a stock of material originally possessed in common (*i e* primitive) Teutonic It is, of course, not impossible that the same experience has occurred to a far wider extent in the isolating tongues of South-East Asia. Unfortunately the question is not yet determinable upon the evidence. We must be content to take the languages as they are, and not seek to go beyond the warrant of the data Some specialists (E Kuhn, for example) speak of the several groups as 'certainly related.' But it has already been pointed out that the only criteria of the genealogical connection of languages are grammar and vocabulary. The fact of racial and geographical association no doubt encourages an im-

pression already formed on these data, but in itself it
furnishes no trustworthy evidence   Falling back, therefore,
on these two tests, we do not find scholars of these groups
of tongues prepared to agree that there is sufficient corre-
spondence of vocabulary to warrant their affiliation to a
common parent, although in respect of grammar such an
affiliation would be entirely natural

It is quite possible that there should be simply com-
municated from one stock of language to a neighbouring
unrelated stock a tendency to a sing-song or a lazy pro-
nunciation, of which the result would be the cutting-down
of words to intoned monosyllables   Such phonetic peculi-
arities are undoubtedly highly contagious, as is seen upon
all borders between two languages   They would be still
more contagious if commerce, wars, lengthened occupations
of territory, and intermixture of blood took place from time
to time.   If two conterminous peoples with quite distinct
languages were infected with the phonetic malady above
described, the result would be in each case that language
would come to consist of monosyllabic remnants of previous
longer vocables   As those previous words are quite distinct
in the two tongues, so their monosyllabic remains would be
quite distinct   The flexions of each tongue being then
effaced, each will evolve a compensating device, and that
they can hit upon the same expedient of word-position
without consulting each other is shown by the fact that the
English and French have hit upon it without reference to
each other or to the Chinese   It may thus very conceivably
come about that, while Chinese, Anamese, Siamese, etc,
agree in monosyllabism, intonation, and a certain method of
word-order, those languages remain as distinct as ever in the
word-material upon which the common tendencies have had
to act.   The genealogical connection of these speeches is
therefore at present unproven

CHAPTER VIII

GENERAL SURVEY OF LANGUAGES (*continued*)

II. AGGLUTINATING-INFLEXIONAL TONGUES

(1) *Suffix-Agglutinating Type*

1 THE **Ural-Altaic** family (which also bears, or has borne, according to the fancy of philologists, the names Finno-Tataric, Scythian, and Turanian) spreads, though not continuously, over a vast region from Turkey, Hungary, and Finland in the West to the sea of Okhotsk in the East, and from the Mediterranean to the Arctic Ocean. The name Ural-Altaic here adopted, though unsatisfactory from a contemporary geographical point of view, is the one most favoured, and is perhaps not inaccurate if taken as roughly indicating two main landmarks and primitive centres in the region from which the various languages probably diffused themselves in their several directions, that region being the area about and between the Ural and Altai mountains.

Whether the languages at present classed under the title are really in all cases genealogically related, is a matter of doubt   The question of racial relationship, as will be shown hereafter, has no necessary connection with the question of linguistic relationship. The languages within each of the special groups (which are to be detailed immediately) are beyond doubt closely akin, but the relationship of one such group to another is by no means so distinct.

It cannot for the most part be convincingly supported by the criterion of sound-material or vocabulary, inasmuch as any common stock of words or even 'roots' is sometimes hardly appreciable Particularly weak is the evidence for connecting the Tunguse and Mongolian divisions with the other three hereafter mentioned

In the matter of grammatical method, however, their resemblance to each other is very obvious and striking The typical agglutinative device, by which an unlimited number of specially dynamic terminations may be affixed to an unchangeable root, is shared by them all, although the extent to which the operation is kept clear of amalgamation varies considerably; Finnish, for example, having become in this respect almost a language of the same class as the Indo-European. Another common feature is the attachment of possessive pronouns to the noun.

Particularly observable is their close agreement in the principle known as 'vowel-harmony,' according to which, when the several suffixes are agglutinated to the main root, the vowels of those suffixes are brought by a regular variation (or *Umlaut*) into harmony with the vowel of the chief root. Speaking generally, and without striving after a disproportionate particularity, the vowels are 'heavy' or 'light,' and a heavy vowel in a root will be followed by heavy vowels in the suffixes, and a light vowel by light vowels Thus if *a*, *o*, *u* be regarded as heavy, and *a e*, *i*, *o*, *u* as light, the appearance of the heavy *a* in the main element, as in the Turkish *yaz* ('write') or *baba* ('father'), determines the character of the vowels of the subordinate suffixed elements, which will necessarily be heavy also. Thus *yazmak* ('to write'), *babalarumdan* ('of our fathers') On the other hand the appearance of *e* in the main element will necessitate the 'light' character in the suffixes. Thus *sevmek* ('to love'), *dedelerinden* ('of our grandfathers') So *evler* ('houses'), but *atlar* ('horses'), and in Magyar whereas 'to the shepherd' is *yuhasznak*, 'to the gardener' is *kertesznek*. In Magyar the nominative, accusative, and dative plural of *Magyar*

are respectively *Magyarok, Magyarokat, Magyaroknak,* while the corresponding cases of *Torok* are *Torokok, Torokoket,* *Torokoknek.* Ideal examples can, it is true, be gathered only from Turkish, Magyar, Finnish, Mongolian, and Manchu. Nevertheless the principle appears, though with less complete application, in the remaining speeches also

Such a phenomenon as vowel-harmony might, after all, be merely of interest as showing one natural tendency of languages with the pure form of suffix-agglutination. It might indicate a similar process, partly physical, partly psychological, developed independently by the speakers of languages morphologically similar. Thus the main root or element, being of predominant importance, is distinctly enunciated, while the suffixed elements, so long as they serve their purpose, are not dwelt upon with the same insistence of precise articulation, and their vowel-quality takes its tone from that tone of the predominant vowel which still, as it were, echoes in the mind. That something of the kind has actually occurred, seems to be borne out by observations of Ural-Altaic specialists, that the law of vocalic harmony appears to be of comparatively recent development. In any case the phenomenon cannot be taken as doing more than lend a strong support to other arguments for original community of speech.

Understanding, then, that any genealogical connection of the more remote groups is still debatable, we may divide the Ural-Altaic 'family' as follows :—

A. The **Finno-Ugric,** otherwise known as the *Ugro-Finnic, Finnic,* or *Ugrian,* comprises the Finnish (or Suomi) of Finland and cognate dialects of less account, Esthonian, Livonian, the Lapponic of Lapland, certain dwindling dialects on the Upper and Middle Volga, others to the north-east of these, some dialects about the river Obi in Siberia, and finally the Magyar of Hungary.

Although there are sometimes considerable divergences exhibited by the languages within this group, their relation-

ship to each other admits of no doubt   In point of
vocabulary we are met by such correspondences as Finnish
kasi ('hand'), Magyar *kez*, Mordvinian *ked*, Ostiak *kēt*,
Finnish *kivi* ('stone'), Mag *ko*, Mord. *kav*, Ost. *keu*, Finn.
nuoli ('arrow'), Mag. *nyil*, Mord *nal*, Ost. *njol*, Finn. *vesi*
('water'), Mag. *viz*, Mord *vad*, while in point of grammar
the Finnish nominative, genitive, and ablative *silma* ('eye'),
silman, *silmalta*, etc, are answered in Mordvinian (for
example) by *selma, selman, selmada*   It would be natural,
however, to expect that these tongues, and particularly
Magyar and Finnish, would contain many words (especially
' culture-words ') borrowed from the Indo-European languages,
Teutonic and Slavonic, which adjoin them.   To some ex-
tent also similar influences may have assisted in breaking
down the original Ural-Altaic grammar at certain points in
Finnish.

Specialists are not entirely agreed as to the most
accurate division of the Finno-Ugric branch into its sub-
groups.   The following arrangement is perhaps least open to
objection :—

1. **Finnic—**

    (*a*) *Finnish* (or *Suomi*), spoken in the greater part
    of Finland proper, and possessing a cultivated
    literature, including the *Kalévala*, an old epic
    of twenty-two thousand verses, which has,
    however, been modernised.

    (*b*) *Tchudic* and the cognate dialects *Vepsic* and
    Votic, about Lake Onega.

    (*c*) *Karelian*, from the White Sea to Lake Ladoga.

    (*d*) *Livonian* (a dialect nearly obsolete) and
    Crevinian in Courland.

    (*e*) *Esthonian*, south of the Gulf of Finland

    (*f*) *Lapponic*, of Lapland.

2. **Permian,** embracing Permian proper, *Siryenian*, and
    Votiak.   These are spoken by sparse populations
    near the Urals in the E.N.E of European Russia.

3. **Volga-Finnic** (sometimes called *Bulgaric*, their region being that from which the Bulgars emerged in the seventh century). This group includes two divisions—

    (*a*) *Tcheremissian*, between Nijni-Novgorod and Kasan.

    (*b*) *Mordvinian* on the Middle Volga.

4 **Ugric,** which comprises—

    (*a*) *Vogul* and *Ostiak*, dialects of a few thousands scattered over a wide region eastward from the Northern Ural and about the Obi River

    (*b*) *Magyar* (or Hungarian), an important and cultivated language spoken over two separate areas, the larger covering the central and more western portion of Hungary, the smaller lying to the S E in Transylvania, where it is surrounded by Roumanian The language possesses linguistic data from as far back as the end of the twelfth century.

B The **Samoyedic** group, including a number of dialects scattered eastwards from the White Sea and along the western portion of the Arctic shore of Siberia Perhaps not more than twenty thousand persons speak these tongues.

C. The **Tunguse** group, embracing languages spoken by the Tunguses, from the Yenissei in Central Siberia to the coast of the Sea of Okhotsk, and also by the Manchus of Manchuria These dialects are totally uncultivated.

D The **Mongolian** group, also uncultivated, comprising—

    (*a*) *Mongolian* proper (or *Sharra*), spoken in the north of the Chinese Empire westward of the Manchu.

    (*b*) *Buriat* dialects, about Lake Baikal.

    (*c*) *Kalmuk* (or Western Mongolian), reaching westward to the Caspian and penetrating into European Russia between the Lower Volga and Don.

E The **Turko-Tataric** group (sometimes known simply as the *Tataric* or *Turkic*) is widely diffused, reaching, though without continuity, from European Turkey to the river

Lena in East Siberia The linguistic connection within this group is very close, the languages of the extremes, Turkish and Yakut for instance, being at least as distinctly related as English and German The sub-groups usually recognised are—

(*a*) *Yakut*, spoken by tribes on the Lena in Siberia, who are surrounded by Tunguses

(*b*) *Kirghiz*, comprising the speeches of the Black Kirghiz (or *Buruts*) in the part of Turkestan bordering on China, and of the Cossack Kirghiz to the north of the Caspian, the Sea of Aral and Lake Balkash

(*c*) *Nogair*, of the Russian Cossacks, in the Crimea and in parts of Russia from south of the mouth of the Volga towards the Sea of Azov

(*d*) *Uiguric*, including *Uigur* proper, *Jagataic*, and *Turkoman*, the dialects spoken in the parts of Turkestan not occupied by the Kirghiz

(*e*) *Turkish* (or *Osmanli*, the latter term, however, being properly used of the official and cultivated Turkish, which contains large Persian and Arabic elements). This language is spoken in the interior of Asia Minor and on its north-east coast (the north-west, west, and south coasts being occupied by Greek), also in Constantinople and other chief centres of European Turkey (the coastward parts being again chiefly occupied by Greek) Turkey possesses a copious literature, the older parts consisting mostly of poetry, story, and proverb.

The Dravidian Languages

II The **Dravidian** family of languages (sometimes called the *Tamil*, by an illegitimate extension of the name of a portion to the whole) occupies the southern half of the peninsula of India from the rivers Nerbudda and Godavery to Cape Comorin, together with Northern Ceylon. The name 'Drāvida' was that applied indiscriminately by the

Aryan (*i e.* the Sanskrit-speaking) invaders of North-West Hindustan to the earlier dark-complexioned inhabitants of India both north and south, Ceylon, and Beluchistan. Ethnologically, however, these belong to three distinct races, viz. the Dravida in the narrower sense, the Kol, and the Cingalese Nor do the languages of these three divisions show any genealogical relationship.

(*a*) *Kol* (or *Kolarian*) is the name of an uncultivated group of dialects spoken by tribes in the highlands of Chota Nagpur (west from Calcutta). They are classed as agglutinative Thus *apu* = 'father,' *apu*ling = '*our* father,' *apu*pe = '*your* father.' Similarly, the quasi-verb is made active, passive, intensive, causative, etc, by means of suffixes piled upon each other after the manner of Magyar or Turkish A peculiar feature, however, is the use of infixes like those of some Malayan languages

(*b*) *Cingalese* (or *Elu*) is an exceedingly mixed tongue, having been dominated by Sanskritic influences, till in point of vocabulary it has become practically an Aryan language, while it is impossible to classify its grammar

(*c*) The *Dravidians* in the narrower sense speak languages which, though now widely divergent, are generally agreed to have been derived from a common stock. Borrowed words from the 'culture language' of the civilising Aryans of the north have naturally found their way in considerable numbers into these speeches, but have not altered their morphological character.

The chief subdivisions of the *Dravidian* family are these.—

1. *Telugu* (or *Telinga*), the north-eastern division, extending nearly to Madras along the Coromandel coast, and in Hyderabad between the Lower and Middle Godavery and Krishna.

2. *Tamil*, which from a literary point of view is the most important of the Dravidian speeches, and is spoken on the eastern side of the peninsula from a few miles north of Madras (Pulicat) to Cape Comorin, as well as in North Ceylon.

3. *Malayālam*, occupying a comparatively small area of the west or Malabar coast south of Mangalore.

4. *Tulu*, current in and about Mangalore, employed by only a few hundreds of thousands

5. *Kanarese*, extending over the greater part of Mysore and the western portion of the Nizam's Dominions.

But besides these main and more or less cultivated divisions there are many less important dialects, such as the *Tuda* and *Kota* in the Nilgherries, the *Kudagu* (or *Kurgi*) in Kurg, the *Gond* in the Vindhya hills, the *Kond* in the hills of Orissa, and *Brahui* in Beluchistan

In a certain measure prefixing is not unknown in these tongues. Thus in Tamil a*thu* = 'that thing,' i*thu* = 'this thing,' e*thu* = 'which thing' Prefixing, however, cannot be called characteristic, any more than the prefixing of the augment in Greek or Sanskrit can be called a characteristic method of flexion in Indo-European The grammatical device of the Dravidian speeches is that of the Ural-Altaic family, viz. the modification of sense and relation by means of suffixes readily attachable and detachable. It is common to quote from Tulu such forms as *mal*puv*e* ('I do'), *mal*pāv*e* ('I cause to do'), *mal*pēv*e* ('I often do'), with the remark that change of meaning can thus also be expressed by internal change of vowel. It would be more cautious to say that the different forms are so many detachable elements or groups of elements expressive of certain special modifications of meaning The differentiation of those elements in themselves may or may not be due to the same causes which differentiated the Semitic roots by means of internal vowel-change. It is, as a fact, quite improbable The likelihood is that *puv*, *pāv*, *pēv*, are combinations and not simple elements. Here, how-

ever, we are only concerned with their suffix-use as we find
it   This is entirely similar to the method of Ural-Altaic
Thus   *malpāve*   is   causative,   *malpāv*uji   is   its   negative,
*malpuv*eda is the conditional-conjunctive, *mal*tondup*puve* is
the durative present

The   declension   of   a   noun   according   to   the   ideal
agglutinative principle, by which, if A = root-element, x =
sign of plural, y = sign of case, a case Ay of the singular is
answered   by Axy in   the   plural,   may   be   illustrated   by   the
Tamil noun *palan*, ‘reward’   Thus—

Sing.	Nom	*palan*	Plur	*palan*ga*l*
	Voc	*palan*ē		*palan*ga*l*ē
	Acc	*palan*ei		*palan*ga*l*ei
	Gen	*palan*udeiya		*palan*ga*l*udeiya, etc.

The *differentia* (which, as has been before observed, is
not   always   clearly   marked)   between   an   agglutinative-
inflexional   and   an   amalgamating-inflexional   tongue   is
obvious   in   the   comparison   made   by   Misteli-Steinthal   of
the treatment in declension of the word *sēvaka* (‘servant’) in
Sanskrit on the one hand and Kanarese on the other.   Thus,
in   the   plural,   the   instrumental,   dative,   and   locative   cases
respectively   are   in   Sanskrit   *sēvakaiš*,   *sēvakēbhyas*,   *sēvakēšu*,
where there is no distinctive sign of the plural, but where
number and case are combined (no matter how the fact came
about)   in   one   general   modification   of   the   terminational
material.   In   Kanarese   the   same   cases   are   expressed   by
sēvaka-r-inda, *sēvaka*-r-(i)ge, *sēvaka*-r-(a)lli, where the sign
of the plural, r, is consistent as well as independent of the
case-suffix   Again, while (*a*)*lli* is the locative suffix and *ge*
the dative, it is possible to say *sēvaka*-r-alli-ge, ‘there to the
servant.’

It may be as well, however, to repeat here that, while we
are justified in placing this family with the Ural-Altaic under
a   common   morphological   heading   of   some   convenience,   we
must recognise (1) that there is no *fundamental* unlikeness
between their methods and that of a language which can
create the series *true*, *tru*-th, *tru*-th-ful, *tru*-th-ful-ly, or one

which can say δείκνυμι (*deiknūmi*), ' I show,' δείξω (*deik*-s-*ō*),
' I shall show,' etc., for though the degree of transparency or
of ease of analysis may differ in the two cases, the principle
is the same : (2) that it is incorrect to say that the speakers
of such a language as Tamil are always alive to a substantive
and independent meaning of those affixes which they thus
systematically attach

(ii) *Prefix-Agglutinating Type*

The **Bantu** family (otherwise called the *Kafir*, a term
which might be misleading, inasmuch as the title ' Kafir,' or
' Unbeliever,' once applied by the Mohammedans to all the
peoples of South Africa, is now restricted to the inhabitants
of a particular stretch of country north-east of Cape Colony)
is of great geographical extent   The word *bantu* (Zulu and
Kafir *abantu*, Sesuto *batu*, etc.) is the form of the word
' men ' which may be taken as most typical for all the
speeches included in the family.   In point of situation these
tongues cover the greater part of South and middle South
Africa, between Natal and about 5° north latitude.   Alien
to them in the south-west are the languages of the yellow
Hottentots and Bushmen, and to the north they are limited
by the domain of the true negroes, the Gallas and the Somali.
North of the Hottentots they stretch across to the Atlantic.
Specialists enumerate some hundred and fifty languages or
dialects belonging to the family, none of these diverging
from any other more widely than English from German or
Latin from French.   They further divide the whole into
three main groups, viz —

1. **Eastern**—including *Kafir*, *Zulu*, the speeches of
   Mashonaland, of Mozambique, and those of the
   Zanzibar coast, known as *Kisuahili*, *Kinika*,
   Kikamba, *Kipokōmo*, etc

2. **Central**—including *Sechuana* (the speech of Bechuana-
   land) and its dialects *Sesuto* (of Basutoland) and
   Serolong, *Tekeza*, etc.

3. **Western**—including (as we proceed from the south) *Herero* (in Damaraland), *Bunda* (in Angola), *Congo*, *Mpongwe* (in Gaboon), *Dikele*, *Isubu*, *Fernando Po*, *Dualla* (in the Cameroons), etc

The distinguishing mark of this family is its employment of prefixes rather than suffixes, though, here again, it is wholly incorrect to speak as if suffixing formed no part of its structural system. The verb, for instance, may be conjugated with various modifications of sense expressed by the attachment of post-positions Thus in Kafir, *tand*a, 'love,' *tand*isa, 'make to love' (causative), *tand*ana, 'love one another' (reflexive), *tand*isana, 'cease to love one another' (reflexive-causative), *tand*eka, ' be loved ' (passive) Between a series like this and one of those quoted for Turkish or Tamil there is plainly no distinction to be drawn. Nevertheless the method of prefixing is the one which is regular and characteristic for Bantu. Thus, whereas the suffix-agglutinating languages express a dative case by means of a special ending, Bantu employs a prefixed particle, *e g*., Kafir **ku***ti*, 'to us,' **ku***ni*, ' to them,' **ku***je*, ' to him,' etc. , and whereas plurality in the typical Turkish or Dravidian is expressed in the formula Ax (the plural case being Axy), in Bantu the plural formula becomes xA (the case being yxA) Thus aba*ntu*, ' men,' is the Zulu plural of (*umu*)*ntu*, while ' with the men ' is expressed by ngaba*ntu*

It is necessary, however, to premise that in Bantu the singular itself is denoted by a prefix In Kafir (which may be taken as typical) one of the forms um, u, *ili*, *in*, *isi*, *ulu* is employed for the singular, *e g*. um*ntu* ('man'), u*bawo* ('father'), ili*zwi* ('word') For these there are substituted in the plural *aba*, *ama*, or *imi* (corresponding to *um*), *o* (corresponding to *u*), *i*, *ama* (to *ili*), *izin* (to *in*), *izi* (to *isi*), etc. Thus um*ntu* becomes aba*ntu*, u*bawo* becomes o*bawo*, ili*zwi* becomes ama*zwi*.

A peculiarity of these tongues is further that they exhibit a most elaborate system of sustained grammatical

concord, similar in principle, as Jespersen says, to the Latin *multōrum, magnōrum, virōrum,* but pervading the sentence to a more complicated and unnecessary extent   The system may be best appreciated in an example, as given by Bleek. In Kafir

umuntu	**w**etu	**omu**chle	uyabonakala	simtanda
= 'man	our(s)	handsome	appears,	we-him-love,'

where the ' pronominal ' prefix *mu* is repeated, or represented by its equivalent (*w, u, m*), in every word   Converted into the plural the sentence becomes aba*ntu* b*etu* aba*chle* ba*yabonakala* si*ba*tanda.   Similarly,

	aba*fana*	b*ami*	aba*kulu*	ba*tanda*
	= 'boys	my	large	they-love',

but

	izin*komo*	z*ami*	izin*kulu*	zi*tanda*
	= 'cows	my	large	they-love'

It may be observed in passing that there is a great resemblance of principle between this and the conversion of the Latin *noster magnus homo appāret* into *nostri magni hominēs appārent,* as compared with the conversion of *nostra magna fēmina appāret* into *nostrae magnae fēminae appārent*   In Bantu, however, the verb, besides being in the plural, is made to share in the special concord of form, while in Latin its termination is the same for any gender.

(iii) *Prefix-, (Infix-,) and Suffix-Agglutinating Type*

The **Malayo-Polynesian** family includes languages spoken in the Malay Peninsula, in the East Indian islands, the islands of the China Seas as far north as Formosa, the islands of the Pacific from New Zealand to Hawaii and Easter Island, and also in Madagascar (but without including the Papuan speeches of New Guinea, sundry Negrito dialects in parts of the Philippines, etc, or the aboriginal languages of Australia)   The family falls naturally into three divisions, the **Malayan,** the **Melanesian,** and the

Polynesian, which, apart from phonetic differences and differences of vocabulary, are so distinguished in structure as to represent three steps in morphological development. To the **Polynesian** branch belong languages which, if taken alone, could never be classed as agglutinative, inasmuch as they express grammatical relations by means of free particles, after the manner of the most advanced analytical tongues, such as English The **Melanesian** branch goes so far as to suffix the possessive pronouns , while in the **Malayan** division determining elements are freely attached in the shape of prefixes, suffixes, and also, in some measure, infixes The prefixes predominate, but not to the same extent as in the Bantu languages Friedrich Muller strangely assumes that the Polynesian branch represents the lowest stage, from which the Melanesian has advanced one degree, while the Malayan has made considerably greater progress The natural conclusion is rather the reverse. There can be little doubt that the Polynesian languages were carried over the Pacific by emigrants from the Malay Peninsula or the East Indies, and that in transit their grammatical system was broken down by the influence of Papuans and others, somewhat as Persian grammar was largely broken down by Arabic influences, and old English by those of Norman French Meanwhile, the Malayan, remaining nearer home, would naturally remain more conservative in this respect, because subjected to less external interference. Moreover, the analogy of the modern European tongues, which have all tended in a greater or less degree to abandon inflexional attachments for free particles, lends support to the view that the Malayan represents the older type

In any case the fact that the several groups belong genealogically to a common family has been placed beyond doubt,[1] and as, despite the changes which have come over its structure, the account of analytical English will be most

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[1] Compare, for instance, on the side of vocabulary, the Tongan words (of the Polynesian branch) *aka* ('root), *ato* ('roof'), *ao* ('cloud'), *ika* ('fish'), *langi* ('heaven') with the Malay *akar, atap, āwan, īkan, lāngit.*

naturally given when treating of the amalgamating-inflexional family of Indo-European, so the account of the no longer agglutinative Polynesian must be included here in treating of the family to which it belongs.   Judging by Malayan, that family was one whose methods of agglutination differed from those of either Bantu or Ural-Altaic in allowing a choice of three positions for the determining element

The recognised subdivisions are as follows —

(1) The **Malayan** branch, comprising—

    (*a*) The **Malayo-Javanese** group, to which belong—

        Malay proper, spoken in the Malay Peninsula, in the greater part of Sumatra, and on the coasts of Borneo.

        Battak, Achinese, and *Lampong* in parts of Sumatra.

        Javanese (or *Kawi*), of three-fourths of the population of Java

        Sundean, of one-fourth in the same island, in the neighbourhood of Batavia

        Dayak, in the centre and north of Borneo.

        Bughi and *Macassar*, in the Celebes

    (*β*) The **Tagâla** group, to which are assigned—

        Tagâla proper, in Luzon (the main island of the Philippines), and other Philippine dialects

        Formosan (though on the west of Formosa Chinese is current)

        Dialects of the *Ladrone* Islands

        Malagasi (or *Hova*) of Madagascar.

(ii) The **Melanesian** branch, namely—

        The various *Fijian* dialects (which are structurally the nearest to the Malayan) and the speeches of *New Caledonia, Loyalty Islands, New Hebrides, Solomon Islands, New Britain*, etc

(iii) The **Polynesian** branch, embracing the languages of *New Zealand (Maori), Tonga, Samoa,*

Tahiti, the *Sandwich Islands* (*Hawaiian*), the *Marquesas*,[1] etc

Speaking generally, the Malayo - Polynesian family possesses no formal distinction between a root and a word "The element which corresponds to the roots of other languages appears regularly as a disyllable, and, where it occurs as a monosyllable, we are justified in believing it to have arisen from a disyllable by phonetic loss " (F. Muller) It can be noun, verb, adverb, etc., but is in itself undetermined Thus *wahi* (= Tongan *fahi* = Samoan *fasi*) may mean either 'to break' or 'a piece broken off' The Fijian *rēki* = 'enjoyment' and also 'to enjoy oneself.' The Malay *sakit* = 'ill,' 'illness,' 'be ill,' 'become ill.' Use may sometimes bring it about that a particular root-word comes to be only substantive, adjective, or verb, but the result is an accident of habit and not the outcome of anything in the form of the word itself. The case may be illustrated, though in a very small measure, from English, where 'love,' 'walk,' 'ride,' etc., are either noun or verb according to position and context, and where 'good' is either noun or adjective. Much closer is the parallel of Chinese (where the fact of the root-words being monosyllabic is, of course, irrelevant to the principle itself).

The means by which such material is adapted to the expression of ideas in speech are position, the use of suffixes, prefixes, and (in some of the languages of the Malayan branch) infixes, the use of particles, repetition, and reduplication. The last two processes, though they are not unfamiliar

[1] According to Whitmee the interrelation of the chief tongues of this branch is probably represented by the scheme
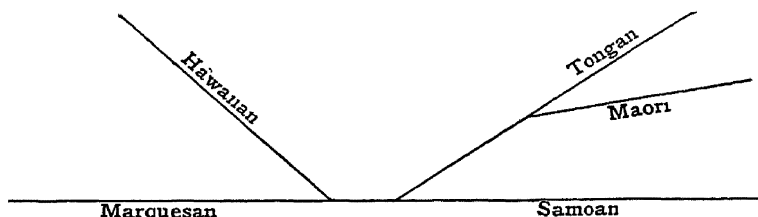
elsewhere, are particularly marked in this family. For instance, in the Polynesian branch, Hawaiian *huli* = 'search,' *hulihuli* = 'search through and through' (an intensive) Maori *haere* = 'go,' *haerehaere* = 'walk up and down' (a frequentative) ; Rarotongan *nui* = 'great,' *nunui* = 'very great' In the Melanesian branch, Fijian *tala* = 'send,' *talatala* = 'message' (a frequentative) In the Malayan division, Malay *rāja* = 'king,' *rājarāja* = 'kings' , Dayak *pukul* = 'beat,' *hapukupukul* = 'beat often' (frequentative)

Infixes are unknown outside the Malayan division. Prefixes and suffixes differ greatly in the extent to which they can be used in the three divisions respectively. In the Polynesian languages sundry qualifications of sense can, indeed, be expressed by particles loosely appended or prefixed, but in such a way that they neither cause nor experience any phonetic modification through their attachment to this or that 'root'-material. These only vary the contents of meaning of the root-word. They do not determine its syntactical relations Thus *faka-* (Tongan), *faa-* (Samoan), *waka-* (Maori) is prefixed in a causative sense, *e.g* Maori *kite* = 'see,' *wakakite* = ('make to see') = 'show' Again, particles like *ia* (*lua, fia*) may be suffixed to form what practically serves as a passive, *e.g.* Samoan *sila* ('see'), *silafia* ('to be seen') But these in themselves no more make a language 'agglutinative' in the usual sense than do such prefixes as the English *be-* in 'be*speak*' or the German *zer-*, *er-*, etc Truly grammatical relations, such as those of time, mood, person, case, number, are regularly expressed in Polynesian by free particles Thus in Maori *ki te tangata* = 'to the man,' while the plural is *ki nga tangata*, both case and number being expressed by a particle In the same language it is the free *i* which imparts a preterite time to a verb, and the free *kite* which expresses the conditional mood

In the Melanesian division the Fijian shows such prefixes as *vaka-* (the causative above mentioned), *ndau-* (intensive), etc, and a large number of demonstrative or

'denominative' suffixes attached to verbs In point of syntactical relations, number, case, tense, and mood are expressed, as in Polynesian, by loose particles, but grammatical agglutination appears in the suffixing of possessive pronouns, e.g. *linga* = 'hand,' *linga*mu = 'thy hand,' *linga*na = 'his hand.'

In the Malayan branch, as in the others, there are, properly speaking, no plurals or case-forms of nouns, these being determined by prepositions or by position. Such prepositions, however, are often more closely attached, so that one may write, *e.g*, di*rumah*, 'in the house' The possessive pronouns are suffixed to the noun as in Melanesian The person of verbs (or what would be the person of verbs in speeches which possess true verbs) is also expressed by suffixes The passive can be represented by prefix, suffix, or infix. 'Denominative' prefixes and suffixes are very numerous Specially remarkable, however, are the infixes which appear in this branch, and which are used both as 'denominatives' and also to assist in creating forms which may be regarded as distinguishing voice, mood, and tense. Thus in Tagâla, *sulat* = 'writing,' *sumulat* = 'to write', Formosan *sasi* = 'salt,' *sumasi* = 'to salt', Battak *sasa* = 'wash,' *sinasa* = 'to be washed.' Still further, while Tagâla *sulat* = 'writing' and *sumulat* = 'to write,' *su-ng-mulat* (*ng* = *na*, 'already') is the preterite active, *sinulat*an is the preterite passive The formula for a modified word in this curious 'incapsulating' method is *AxyxA*. Perhaps it may be allowable to compare with this manner of fusing various elements into a phonetic amalgam the practice of Semitic in its dynamic interior modification of its disyllabic roots.

(iv) *Other Families or Languages commonly classed as Agglutinative (the agglutinative principle being often impurely or only partially applied)*

(*a*) The **Papuan** languages, in New Guinea and some smaller islands, breaking the geographical continuity of the Malayo-Polynesian family Of these the dialect of the

Mafor of New Guinea seems to be practically the only one tolerably known   In token of their agglutinative character are quoted such forms as *snún* = ' man,' *snún*si = ' men ' , *bien* = ' woman,' *bien*si = ' women,' which show pluralising by suffix   Declension is by prepositional prefix, *e g* ro*snún* = ' of the man,' ro*snún*si = ' of the men ' , be*snún* = ' to the man,' be*snún*si = ' to the men.'   In the verb, ja*mnaf* ('I hear'), wa*mnaf* ('thou hearest'), i*mnaf* ('he hears') , and (with an object) ja*mnaf*au ('I hear thee'), si*mnaf*ı ('they hear him'), illustrate a process which differs from complete analysis only in the degree of separation of the elements   The formula for these tongues is *yAx*.

(β) The **Australian** languages (which, including the extinct Tasmanian, appear to be derived from a common source,[1] so far as can be judged from their structure, and in a certain degree from their vocabulary, particularly their general agreement in the pronouns and the first three numerals) are best known in the southern and south-western portions of the continent   Their chief principle of structure is suffix-agglutination, though they vary in the consistency of its application.   The method is clear in a declension like that of *punul* ('son') in the Lake Macquarie dialect, viz. Nom *punul*lo, Dat *punul*ko, Gen *punul*koba, Abl *punul*tın, or in the Kamilaroi *mulıon* ('eagle'), Dat *mulıon*gō, Abl *mulıon*dī, Loc. *mulıon*dā, etc.

(γ) The **Negro** languages of Africa, extending across the continent from the West Coast, north of the Bantu family and south of the Semitic and Hamitic, admit of a certain amount of grouping, but cannot be referred to a common stock.   Neither the criterion of vocabulary nor that of grammar supports such a reference.   Generally speaking, these languages are agglutinative, though some of them have attained rather the isolating character of Chinese.   The principal groups are—

(*a*) The *Wolof*[2] dialects of Senegal and Senegambia

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[1] A connection with the Dravidian tongues cannot be upheld.
[2] *Wolof* = ' the black,' while *Fúlbe* = ' the red '

In these use is made of particles and prepositions as well as of word-position for the expression of syntactical relations. Thus *fas u bûr* = 'horse of king.' It is, of course, only at the point at which the determining particles are actually tacked to the main root and so create a kind of compound that agglutination begins. This process is common in Wolof. Hovelacque quotes *mas-nâ* = 'have-I,' while *mas-on-nâ* = 'having-was-I,' and *mas-agu-nu-won-sopa-sopa-lu* = 'have-not-yet-we-(imperf sing) loved.' Forms like these represent agglutination in its rudest shape, viz the simple juxtaposition of particles, which become more or less symbolic by use, and by pronunciation are brought into an appreciable unity with the main root.

(*b*) *Mende*, of Upper Guinea, including dialects of Mandingo, Bambara, etc

(*c*) *Felup* dialects, between the Wolof and the Mandingo, on the Gambia, Geba, etc.

(*d*) *Kru* dialects of the Grain Coast

(*e*) The *Eve* (*Ife*) group, including Yaruba, Ashanti, etc, on and behind the Slave, Gold, and Ivory Coasts.

(*f*) *Ibo* of the Niger Delta.

(*g*) Central African speeches, *e g.* the *Songhrai* (on the Niger, south-east of Timbuctoo) and the *Hausa* dialects. These speeches may have become more isolating in structure than most of the Negro tongues from the fact that they have come into more frequent collision with alien influences Hausa, for example, is in wider use as a *lingua franca* than any other language in Middle Africa.

(*h*) *Bornu* dialects about Lake Tchad.

(*i*) The Upper Nile group *Bari, Shilluk, Denka*, etc.

(*j*) Unclassified dialects existing in Central Africa, south and south-east of Lake Tchad (*Baghirmi*, etc)

(δ) The **Nubian-Fula** languages These are distinctly suffix-agglutinating Without committing ourselves to any opinion as to a genealogical relationship of the speeches involved, we may divide into two groups —

(*a*) The *Fula* (or *Pûl*) dialects, extending from westward of Lake Tchad, north of the Negro languages just described, between 10° and 20° north latitude, and penetrating between certain of those at the Senegal coast

(*b*) The *Nubian* group, including *Nubian* proper, *Dongolawi*, *Tumali* (of Kordofan), etc.

(ε) **Hottentot** dialects viz *Nama* (of the Namaqua) to the north-west, *Khora* (of the Khoraqua) to the north-east, and *Cape Hottentot* The last is practically dead. These dialects have no connection whatever with either the Bantu or the Negro speeches Though generally given as suffix-agglutinating (demonstrative elements and signs of gender, number, and case being terminational affixes), it is difficult to distinguish many Hottentot forms from cases of amalgamating inflexion or of analysis

(ζ) **Bushman** dialects, scattered between the latitude of Lake Ngami (20° S) and the Orange River These are reported as tending from the suffix-agglutinating to the isolating method.

(η) **Japanese** is apparently distinct from any branch of the Ural-Altaic family. So far, again, as it seems to correspond to Chinese in respect of any word-material the phenomenon is simply the result of borrowing. Reduplication appears for the expression of plurality (e g *jamajama*, ' mountains,' *kuniguni*, ' lands ') in the same way as in Malayo-Polynesian, but there is otherwise no affinity with that family The regular grammatical method is that of suffixed elements. Thus, with nouns, *tsu* or *no* indicate possession, *ve* and *he* direction ; and, if *Yedove* = ' to Yedo,' a process of combination results in *Yedoveno missi* = ' road (of) towards Yedo.' According to the proper agglutinative method, these particles are affixed to singular and plural alike. Thus

*fito*no, ' of a person,' is equal to a genitive singular, while its plural is *fitobito*no, the locative singular is *fito*ni, the plural *fitobito*ni The affixes are, however, so far free that some grammarians write them separately. Verbal meanings are more closely defined by ' demonstrative ' suffixes, e.g. *nuku* = ' warm,' *nuku*mi = ' become warm,' *nuku*muru = ' make warm '; *mi* = ' see,' *mi*se = ' make see ' (' show ') ; *miru* = ' to see,' *mi*zari = ' not see ' Nevertheless, that the language is not strictly agglutinative in the accepted sense of that term has been sufficiently shown already, and in the spoken language the phonetic obscuration of the constituent elements, particularly of verbs, is carried to a considerable extent.

Japanese possesses a literature dating from A D. 7 1 2 in the shape of the *Kosiki* (the sacred book of Shintoism) and of the national annals

(θ) **Corean** is a suffix-agglutinating tongue. Thus from *ka-ta* (' go ') are formed *kat*ta (preterite), *ka*keitta (future), *kat*keitta (fut preterite), *ka*teni (imperfect), *kat*teni (pluperfect) The official speech is Chinese, and a large number of Chinese words have found their way into Corean proper, adapting themselves, however, to the Corean structural method.

(ι) The **Hyperborean** speeches of Asia, some of which may or may not form a family, include the languages of the *Ainus, Ghiliak* (of North Saghalien and on the neighbouring coast of the mainland), *Kamtchatdale, Koriak, Yukaghir, Tchukchi,* and *Yenissei-Ostiak* (a tongue to be distinguished from the Ural-Altaic Ostiak, with which its agrees neither in its roots nor in the principle of vowel-harmony) The true agglutinative method (with formula *Ay* for singular, *Axy* for plural) appears in such a declension as the Yenissei-Ostiak *tāfa* (' stick '), *tāfa*deng (dative), *tāfa*denger (abl), *tāfa*gei (loc), with corresponding plural *tāfā*n, *tāfā*ndeng, etc.

(κ) The **Caucasian** speeches fall into two groups—

(1) **North Caucasian** (sometimes improperly styled Circassian) with the branches *Circassian* (west-

ward to the Straits of Kertch), *Kistian* (central),
Lesghian (of Daghestan on the Caspian), and very
numerous sub-dialects   The name of the group
is geographical only   There is no sufficient proof
that the several languages are derivable from a
common parent, although they have many points
of resemblance [1]

(2) **South Caucasian** (also called **Kartvelian**), including
Georgian, Suanian, Mingrelian, and other dialects
Relationship in this case is distinctly recognisable.

The agglutinative principle prevails in all these
tongues, but the result often becomes indistinguish-
able from amalgamating flexion.   Some writers,
therefore, speak of them as 'inflexional,' even in
the narrower sense of that expression   To take
a comparatively mild instance   In Georgian, the
present of the verb 'to be' is conjugated **w**ar,
char, *ar*s, **war**th, **char**th, *ar*nan, and though *ar* is
no doubt retained throughout, it requires an effort
to realise the fact that it is the root   In Khasi-
kumuk, a dialect of Lesghian, *ai* is the base or
theme of the verb 'to make' , but forms like *āra,
ūra, aisara, ūnda, ānda, ā,* etc., make up its
paradigm   Both suffixing and prefixing are
employed   The objective pronoun is taken up
into the verb as in Basque, and to that extent the
languages may be treated as incorporating.

(λ) **Basque** is no true agglutinative tongue according to
the customary use of the term.   Thus Van Eys gives *eduki*
as the 'verb' meaning 'to hold'   Of this the 'verbal stem'
is often simply *eu*   Again, for d*eduk*t ('I have it'), *dadukat*
is phonetically substituted, and this, once more, is replaced
by *daut* or *dut*.   Such an instance shows that it is impossible
to speak, in regard to Basque, of a main 'root' preserved in

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[1] It is highly probable that the Caucasus district has been the refuge of a
number of different stocks successively forced into the hills by pressure from both
north and south.

an invariable form throughout a paradigm It may be true that a Basque verb is made up of combined elements. But so is a Greek or Sanskrit verb And in Basque, as in Greek or Sanskrit, the elements may evidently obscure each other to a considerable extent Phonetic obscuration of the root is not allowable in the ideal agglutinative system, yet in Basque it occurs in the instances above given, as, further, in such a formation as *neban*, ' I had,' beside the theme *eu.*

The distinguishing mark of the language is its compulsory welding or incorporation into the verb of the pronouns of the subject, direct object, and indirect object. The ' verb' is a stem or theme *plus* signs of the personal pronoun, and a transitive verb without an object incorporated is impossible The subject pronoun is also attached, its position varying from prefix to suffix. Thus, in an intransitive verb, *n-a-bil* = ' I go' (*a* being euphonic), *h-a-bil* = ' thou goest,' *d-a-bil* = ' he goes' With indirect object, *h-a-bil-ki-t* = ' thou goest to me.' In a transitive verb, *n-a-kar-su* literally = ' me - carriest - thou,' *h - a - kar-t* = ' thee - carry - I,' *d-a-kar-t* = ' him (it)-carry-I,' and, with indirect object, *d-a-kar-su-t* ' it-carry-to-thee-I ' These particular examples are ' agglutinating' enough, the formula being *rRrr*, but such distinctness of method is not consistently apparent. To a certain extent Basque recalls the polysynthesis of the American tongues, but only in respect of the pronouns. To quote the French *je l'aime* (*j'l'aime*) or *il te le dit* (vulgarly *i't'l'dit*) is merely to show that a close union, affecting both word-order and phonetics, between verb and pronoun is more or less instinctive. In Basque, however, the verb has no existence at all without the pronoun.

The Basque dialects (properly called *Escuara* or *Euscara*, but more familiarly *Euskarian*) are spoken by nearly half a million people about the Western Pyrenees, in the French *arrondissements* of Bayonne, Oloron, and Mauléon, and on the Spanish side between Pampeluna and Bilbao They are very numerous, including Labourdin, Souletin, Bas-Navarrais,

Haut-Navarrais, Biscayan, etc.   Unfortunately for a historical examination of the Basque structure or 'roots,' it is not possible to go back by the help of any literature further than the first half of the sixteenth century   The earliest printed work is a collection of poetry of the year 1545, and there is no supply of manuscripts of an earlier date.   The intrinsic difficulty of the Basque language was much exaggerated by the earlier French and Spanish investigators, who were looking for the same principles of grammar which prevailed in their own tongues and were perplexed by inevitable failure

(μ) The ancient **Accadian, Shumerian** or **Proto-Chaldean,** if correctly deciphered from the cuneiforms, is as agglutinative as the Ural-Altaic type, with the power of incorporating objective pronouns   Professor Sayce gives *gar*mu, 'I made,' *gar*inmu, 'I made it,' *gar*danmu, 'I caused to make,' *gar*dannumu, 'I did not cause to make'

Accadian reveals no distinct affinities with any known family of language

(v.) *The Polysynthetic or Holophrastic Languages of America*

The native American tongues, which are reckoned at over four hundred in number, though they mostly (but by no means universally) agree in the principle of polysynthesis (varying greatly, however, in the extent of its practice), cannot be reduced to less than about thirty groups.   Many of them, particularly in South America, are too little ascertained for a theory to be advanced as to their inter-relationships

Speaking generally, their distinguishing mark is their power of taking up and incorporating with the verb the subject, object, and elements expressive of time, place, and kind of action (such as negative, causative, reflexive, and other demonstrative tokens), till it often happens that a whole sentence is expressed in one compound word, some-times of formidable dimensions.   As Duponceau well states the case, they show a " mode of compounding which is not

confined to joining two words together, as in Greek, or
varying the inflection or termination of a radical word, as in
most European languages, but which interweaves the most
significant sounds or syllables of each simple word, so as to
form a compound that will awaken in the mind at once all
the ideas singly expressed by the words from which they
are taken."

Thus the parts of a simple sentence which in an ordinary
analytical tongue of Europe would be represented by a
pronoun or noun subject or object, a possessive pronoun, an
adverb, and a verb, may, in the more consistently poly-
synthetic of the American speeches, be fused into a mass which
is as distinctly a single word as the English *indefatigableness*
or the Greek καταπεπολεμησόμεθα (*katapepolemēsometha*, 'we
shall have been warred-down') Whereas, however, the
long English word in this case is but an abstract noun
expressive of a quality (which might conceivably have been
equally well expressed by a monosyllable), the polysynthetic
word may involve what we should express by several distinct
parts of speech The inflected Greek word, indeed, goes
further than the analytical English It expresses by root
and flexion a verb and its subject compounded with a
determinant of manner ('down'), and qualified in point of
time and voice Yet the Greek could never incorporate an
object, whether pronoun or noun, and the number of
determinants is small. It is no characteristic of Greek to
weld into its verbs such a complete series of adverbial
elements as occur in Greenlandish, for example, where such
notions as 'almost,' 'quickly,' 'probably,' 'willingly' are
habitually included in the verbal expression itself From
Cherokee we find quoted *nadholinin*, 'bring us the canoe,'
conflated from *naten*, 'bring,' *amokhol*, 'canoe,' *nin*, 'to us.'
Whatever power of compounding elements may have existed
in an Indo-European tongue (*e g.* in Greek or Old Teutonic),
there is no trace whatever of a power to incorporate either a
direct or an indirect object. It would only be when we
could find *e g*. φέρε ἄκατον ἡμῖν fused into some such

shape as φρακαθημιν that we could fairly compare Greek compounds with the American holophrastic word. In the Indian languages, as in the instance quoted, it is often sufficient if a fraction, sometimes a mere letter, of this or that element remains clear in the composite mass   The portion so remaining must, however, be the most significant   The German words *beim* (= *bei dem*), *zur* (= *zu der*) , the English *shan't* (= *shall not*), and the vulgar French pronunciation *kèkcèkça*? (= *qu'est-ce que c'est que ça*?) are rare instances in speeches nearer home of a tendency to a similar phonetic abbreviation checked by the same consideration   In the American the abridgment of a given element, and its phonetic adaptation to its surroundings, may take place at the beginning, in the middle, or at the end.

It is easy, however, to overstate the extent to which polysynthetism is carried   It is naturally interesting to quote a word from the Indian of Massachusetts containing eleven syllables, and meaning ' he fell down on his knees and besought him,' or from Mexican a word of twenty-seven letters denoting a priest , but such citations, which are apt to leave a false impression as to the average length of an American polysyllable, should be treated rather as curiosities   It is more pertinent to our subject to illustrate the principle itself, as shown in the Cherokee *kukūsquo*, ' I wash my face,' *takutēyā*, ' I wash dishes,' or in the Mexican *nikalchihua* (lit ' I-house-build '), ' I build a house,' *nišotšitēmoa* (lit ' I-flowers-seek '), ' I look for flowers,' *ninomāpopōwa* (lit ' I-my-hands-wash ')

Again, though it is true that incorporation on this large scale is a distinguishing peculiarity shared by nearly all the American tongues and preserved in fair consistency by the North American Indians, it would be an error to suppose that the Greenland language on the one hand, or the Mexican on the other, necessarily *does* always incorporate the elements which it *may* incorporate, and that therefore a noun, for instance, can possess no separate existence.   The

Greenland speech can on occasion substitute for a long compound individualised words with suffixes of relation. Thus the termination *-p* in *akhfekhup* ('whale') permits of that word being used as the subject to a sentence. Likewise in Mexican, although, as has been said, 'I seek flowers' is according to the polysynthetic method expressed by *nišōtšitēmoa*, nevertheless the element *šotši-* ('flower') is capable of a separate existence when accompanied by the termination *-tl*. The answer to the question 'what do you seek?' may be given as *šotšitl*. Similarly, though in the compounds the first personal pronoun singular is expressed by *ni* (e.g. *nitēmoa*, 'I seek'), the answer to the question 'who seeks flowers?' may be given as *newātl*, 'I.' Again, beside the noun-incorporating composite *ninakakwa*, 'I-flesh-eat,' Mexican employs the device *ni-k-kwa* in *nakatl*, i e 'I-it-eat the meat,' where an anticipatory appositive pronoun *k* is incorporated, while the noun is left free. So *ni-k-mati* in *teōtlatōlli*, 'I-it-know, the God's word.' The two structures are combined in such an expression as *nikšotšitēmoa kwikatl* (I-them-flower-seek songs,' *i e*. 'I seek songs like flowers' (' I cull songs '), a turn not unlike ἀνθολογῶ ᾄσματα.

If the term 'agglutinative' were applied indiscriminately to any language in which element is tacked on to element (each such element in some way modifying the sense), no matter what the phonetic results may be or what changes the several 'roots' may undergo in the process, the American tongues might obviously bear the title. The term, however, is not so employed. If we are to separate amalgamating-inflexional from agglutinative on the ground, not of a fundamental principle, but of a difference in its obviousness, extent, or results, we are bound to distinguish polysynthesis equally from either. Unfortunately information concerning the American languages appears to be too scanty or inaccurate or ill-digested to permit of the philologist investigating in a satisfactory manner the exact degrees in which polysynthesis is varied or broken down throughout the two continents. Neither is an accurate grouping and

subdivision of the tongues obtainable.   So far as attempts
have yet gone, the chief classifications (some of which are
very roughly made) are as follows —

1. The **Eskimo** (**Innuit**) speeches, spreading in various
   dialects from Greenland and Labrador along the
   north coast of North America and reaching into
   North-East Asia

2 The **Athabascan** group, extending over the north-
   west of the Canadian Dominion from Alaska to
   Hudson's Bay, and including dialects detached
   from the main group farther south in the United
   States, *e g* the Navajo and the Apache (of Nevada,
   Arizona, and Upper California)

3. (*a*) The **Algonkin** languages, lying partly west, but
   mostly south and south-east, of Hudson's
   Bay, and including dialects of tribes in the
   east of the Dominion of Canada and extend-
   ing into the United States as far as North
   Carolina   The chief divisions are the *Cree,
   Mikmak, Ojibway (Chippeway), Mohican* (of
   Connecticut), *Abenaki* (of Massachusetts), and
   Delaware

   (*b*) The speeches of the **Iroquois** group are sometimes
   classed with the above and sometimes not
   They include the *Mohawk, Oneida, Huron,
   Tuscarora,* etc., spoken in parts about the St
   Lawrence Lake, in the State of New York, and
   in reservations westward of the Mississippi

4. The **Dakota** group, of the Sioux, etc.

5. The **Pawnee** (in Arkansas)·

6 The **Appalachian** group (of Florida and south-east),
   e g *Cherokee, Choctaw, Muskogee.*

7, 8, 9. **Oregonese, Californian,** and **Yuma** (Colorado)
   groups.

10. **Koloche** dialects of British Columbia and neighbour-
    hood.

11 Various speeches of **Pueblo** Indians and of Texas.

12. The **Mexican** group—
   (*a*) **Shoshone** speeches (*Comanche, Utah,* etc.)
   (*b*) **Sonora** speeches (North-West Mexico, South Arizona, etc.)
   (*c*) **Nahuatl** (the Mexican of the Montezumas) and its derivative the modern *Aztec,* with which are connected many dialects.
13. Other Mexican idioms, independent of the preceding and probably the languages of earlier inhabitants of Mexico, e.g. *Othomi, Mixtek, Tarasca,* etc
14. **Maya** of Yucatan (with *Quiche, Huasteca,* etc).
15. Unclassified Central American dialects, *e.g.* the *Cueva* group (Panama).
16 The **Cibuney** group of the Antilles or islands of the Caribbean Sea
17. The **Carib** (or *Galibi*), from Panama eastward, and, with *Arawak,* reaching to the Guianas.
18. The **Tupi-Guarani** group, southward from Guiana through Central Brazil to Paraguay and La Plata
19. **Chibcha** in Colombia.
20. Various languages of the Andes
21. The **Peruvian** group (*Quichua, Aymara,* etc).
22 **Araucanian** dialects of Chili '
23. The **Guaycuru-Abipone** dialects of West Paraguay and North Argentina.
24. Dialects of the Pampas (*Puelche*), Patagonia (*Tehuelche*), Tierra del Fuego, etc.

CHAPTER IX

III. THE AMALGAMATING-INFLEXIONAL TONGUES
(COMMONLY CALLED SIMPLY INFLEXIONAL)

A. *The Semitico-Hamitic Family*

A VERY important list of languages of South-West Asia and of North and North-East Africa, living and extinct, is known by the name of the Semitico-Hamitic family. In it are included two branches widely divergent from each other 'Semitic' and 'Hamitic' are names which hardly pretend to a more philosophic *raison d'être* than that of convenience. Shem (or Sem), the son of Noah, is represented in the Mosaic tradition (Gen. x) as the ancestor of most of the peoples of South-West Asia with whom the Hebrews felt themselves akin, *e g.* the Assyrians, Syrians, and Arabians Ham, his brother, is the progenitor of the Egyptians and other Africans, the Ethiopians, and the Canaanites (including the Phoenicians) It will be seen, when we come to arrange the various tongues in detail, that this division of peoples is far from corresponding to a proper division of languages. Thanks, however, to notions based largely on geography and colour rather than upon the exact Biblical text, in the popular conception Ham has come to be regarded as the father of Africans, and Shem as the father of the Hebrews and the peoples akin to them in Asia. Even

in this acceptation the linguistic application of the terms, if pressed, would be incorrect, inasmuch as several of the languages of Africa which are now to be treated belong, not to the Hamitic branch, but to the other Nevertheless it would be a needless purism, if not pedantry, to object in the study of language to a convenient term which has acquired a special meaning for that science.

Roughly speaking, the **Semitic** group includes the ancient languages of Chaldea, Assyria, Syria, Phoenicia, Palestine, and Arabia, the modern tongues which are derived therefrom, and those which were once carried from them across the Red Sea, or to Carthage, or elsewhere. The **Hamitic** embraces Ancient Egyptian, Libyan and Ethiopian with their later derivatives.

The genealogical relationship of the Hamitic to the Semitic tongues is maintained by no few of those most competent to deal with the question Fr. Muller, for example, speaks of them as 'indubitably' forming a linguistic unity It is true that the characteristic formative features of the Semitic languages (such as the tri-consonantal roots and the dynamic vowel-variation) are conspicuously absent from the Hamitic ; but the fact may be accounted for by assuming a very long separation of the two branches, during which the Hamitic speeches at least were probably subjected to those alien influences which have already been spoken of as tending to break down the grammatical structure of a language. The extent to which divergence of structure may be carried within the same family has already been seen in the case of the Polynesian tongues as compared with the Malayan. It appears also very appreciably in the difference between such Indo-European languages as modern English and ancient Greek At the same time there is a very distinct resemblance in the material of the pronouns in the Semitic and Hamitic groups , the plural suffixes of their nouns appear to be of common origin ; and the use of the affix *t* to denote the feminine is characteristic of both divisions It is hardly credible that such resemblances

should be accidental, nor is it in the least likely that the Hamitic borrowed these particular portions of its vocabulary and grammar from the Semitic, or *vice versa.* Even if we admitted that special grammatical usages might be borrowed, they would certainly not be borrowed without being accompanied by still larger borrowings of vocabulary   The assumption that one whole body of language could be so powerfully affected by another as to give up its own pronouns, which are among the most pertinacious (because among the most universally and perpetually used) elements of a primitive speech, is equivalent to supposing such a penetrating and sustained influence of one language upon the other that it would be impossible for the general vocabulary of the latter not to have been affected in a profound degree   On the other hand, given two languages which start from the same point, provided with the same material both of roots and formatives, and the same methods (perhaps, indeed, rudimentary) of combining such material, it is a matter of experience that, after separation, they will pursue dissimilar developments in both respects.   If, then, the interval of separation is made sufficiently long,[1] and if alien influences strongly attack one branch or the other (or both), it may well result that little trace of the original unity is eventually discoverable   On the other hand, there may remain some few vestiges of the common inheritance, and it will depend upon the nature of these, rather than upon their number, whether the philologist will argue for a probable relationship or not   In the case of the Semitic and Hamitic tongues the traces above-mentioned, though few, are unusually significant

(1) THE SEMITIC DIVISION

The most prominent characteristic of the Semitic languages lies in the fact that the 'root,' in the usual

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[1] In the present instance the interval must necessarily be reckoned by millennia, in view of the exceedingly remote date to which Egyptian records go back   That date is itself obviously far removed from the original establishment of an Egyptian language

acceptation of the word, regularly consists of a group of three consonants, which continue constant elements in all the series of words deducible from that root. These three consonants are in themselves the representatives of the general or undetermined notion To give to such a tri-consonantal root an actuality as a word or word-stem, it is of course necessary that the consonants should be uttered along with a sonant or more than one sonant. It is a salient peculiarity of the Semitic tongues that on the particular vowel-sounds which are so employed depends the gram-matical or other determination of the word. The consonants are, theoretically at least, unchangeable, while the vowels vary in strength, position, and number , and each such variation denotes a corresponding variation in meaning or syntactical relation. As Misteli expresses it, "the purely lexical element in the Semitic speech lies in the consonants, the grammatical in the vowel" The vowels thus play in Semitic a part which, in the Indo-European languages, is almost entirely played by terminational flexion or by composition. In other words, Semitic flexion is mainly internal. It is, however, by no means wholly so, since flexion occurs also (as will be seen immediately) in the shape of suffix and prefix.

The Arabic 'root' involving the general notion of 'killing' was a conception as yet undetermined as verb or noun, and devoid of any implication of any relation whatever to other members of a sentence——in fact, an abstraction is given in the form *qtl* Similarly, the combination *ktb* contains the general notion of 'writing,' *drb* of 'striking,' *dbr* of 'speaking,' *vgd* of 'finding,' and so forth The deter-mination of these roots to special meanings and functions in a sentence begins with the presence of vocalic elements, and as has been stated above, the meaning and function will depend upon the kind and position of the vowels employed Thus, while *qatala* = 'he killed,' *qutila* = 'he was killed,' *(ya)-qtulu* = 'he kills,' *qātil* = 'killing,' *qitl* = 'enemy,' *qitāl* = 'a blow,' *qātala* = 'seek to slay' So while *(ta)ktuba* = 'thou writest,' *katab(ta)* = 'thou hast written.'

It might seem natural to compare with these vowel-variations the changes which go by the name of Ablaut in Indo-European. Thus, *drink, drank, drunk*, *freeze, froze*; *fŏdio, fōdi* ; *fides, fido, foedus* , λιπεῖν, λείπω, λέλοιπα, might perhaps be adduced as showing that the Semitic process is not unknown to the Indo-European tongues. It must, however, be observed, first, that such variations in Indo-European are but occasional phenomena, and of an incomparably narrower range in each case , second, that they altogether lack definiteness of system , and third, that they originally possessed no grammatical or determining function whatever, but were simply the phonetic result of a shifting of the position of the tonic accent, due to the number or accentual nature of the affixed elements In Greek it was still the external flexion and not the root-vowel which determined the tense, and if in English the change from ‘ *sing* ’ to ‘ *sang* ’ has come to correspond with a change of tense and to serve as its sign, that condition has been brought about by phonetic accident and not by formative principle It is, of course, a possible theory that even in Semitic the vocalic variation may be ultimately derived from differences of stress and pitch, which originated in the special psychological conditions appertaining to special conceptions. Yet even in that case the Umlaut would still have been at all times formative, whereas in the oldest ascertainable Indo-European no such ‘ dynamic ’ intention is to be discovered

It has been said above that the root-elements of Semitic words are regularly tri-consonantal. Nevertheless they are far from invariably so In many instances it is true that roots which have come to contain but two consonants can be shown to be the results of phonetic condensation or corruption from a radical form with three consonants. Thus in the Arabic *qul* (‘ speak,’ imperative), *qāla*, ‘ he spoke,’ the root is *qvl*; and analogously *kil, kāla*, belong to *kjl*. In other cases the root is not forthcoming, and not a few bi-consonantal stems, *eg*. Arabic *abv-* (‘ father ’), *ban-* (‘ son ’),

or Hebrew *jād* ('hand'), remain without any plausible tri-consonantal etymology That the comparative grammar of the family tends to bring us back more consistently to tri-consonantal roots in the Semitic Ursprache (or common parent) is so far significant, but it is scarcely scientific to assume that the shorter forms are in all cases derived from longer ones, and to ignore any *a priori* probability that longer forms may themselves have been constructed out of shorter It is quite conceivable that both processes have occurred in succession Bi-consonantal roots may have been amplified by further elements, and these compounds again weathered down by phonetic loss Whatever may be the truth in regard to these obscure and perhaps unsolvable questions, the fact remains that, taking Semitic both as it is and as far back as it can be hypothetically reconstructed, the tri-consonantal root is an unmistakable characteristic of the family.

Vowel-variation, however, is not the only device by which modifications of sense are expressed or derivatives formed. Semitic employs particles, position, prefixes, and suffixes in manners analogous to those of other families of language Composition, in the usual sense of the term (according to which it means the attaching of two or more full stems together), does not exist, but numerous derivatives may be formed from a root by attaching denominative elements, chiefly as prefixes, but also, to a very small extent, as suffixes Thus such notions as the causative, reflexive, etc., are expressed by formations from the root *qtl* in the Hebrew shape hi*qtil*, hith*qattel*, ni*qtal*, etc. Arabic may possess as many as fifteen such 'determined' or specialised conjugations for each verb, and often approaches that number in actual use

Apparent compounds, mostly proper names, are often simple juxtapositions of two nouns, one being 'governed' by the other (or standing to it in the relation of a genitive), e.g. *Beth-Shemesh, Beer-Sheba, Ben-Jamin*.[1] No doubt the

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[1] It may be noted in passing that the Semitic order in *Ben-Jamin, Melekh Israel*, etc , is the contrary of that which is usual in Indo-European compounds.

line between such combinations—in which a certain unity is marked by the closeness with which the two constituents are uttered together—and the simpler forms of true composition, is slight, nevertheless it is real. While Indo-European tongues can form such compounds as *philopro-genitiveness* or *Unberedtsamkeit*, it is contrary to Semitic principles to go further than attaching a prefix or a suffix directly to the vocalised root The accumulation of affix upon affix seen in the Ural-Altaic and Indo-European families is quite unknown

The external inflexion of a verb consists in affixing to the noun or adjective stem certain elements which may be regarded as personal pronouns These do not always occupy the same position There being but two so-called tenses in the Semitic—the one denoting 'completed' and the other 'uncompleted' action—the pronominal elements are prefixed in the incomplete (imperfect-durative) and suffixed in the completed (perfect-aorist) tense. Thus *qatal*at, 'she killed,' but ta*qtulu*, 'she kills', *qatal*nā, 'we killed,' but na*qtulu*, 'we kill' In the second and third persons the sex of the subject is distinguished as masculine or feminine Thus *qatala*, 'he killed,' *qatal*at, 'she killed', ya*qtulu*, 'he kills,' ta*qtulu*, 'she kills,' *katab*ta, 'thou (masc.) writest,' but *katab*ti, 'thou (fem) writest'

In noun-flexion the primitive Semitic employed suffixes to form the singular, dual, and plural numbers, as well as the three cases, nominative, genitive, and accusative (those terms, however, being scarcely applicable in the senses which they bear in Indo-European) In classical Arabic the declension is maintained, as in *abd*ū, *abd*ī, *abd*ā, a system analogous to the Latin *serv*us, *serv*ī, *serv*um (although, of course, no genealogical relationship is suggested between the two sets of terminations) Elsewhere, as the Semitic languages tend to become analytical, the systematic declension disappears,

The English (and German) arrangement *Jacob-son* would be in Semitic *son Jacob Beth-Shemesh* (lit 'house sun') would represent a Greek Ἡλίου οἶκος (cf Ἡλίου πόλις, 'sun's city,') and *Samuel* shows the reverse order to Θεαίτητος.

and in Hebrew, for example, is replaced by the use of pre-positional particles.

The possessive pronouns are suffixed to their nouns, as in *Elī*, 'my God,' Arab *katābī*, 'my book,' and the objective pronoun to the verb, e g. *Sabachth*anī, 'thou hast forsaken me.' The article is prefixed in the Arabic form *al*, Hebrew *hal*, the final *l* in each case being brought into phonetic accord with, or assimilated by, the following consonant, *e.g.* Hebr ham*melekh*, 'the king,' Arab. ar*rahmān*, 'the merciful.' In Aramaic the function of the definite article is performed by a suffix *-ā*, e g *malkā*, 'the king.'

The distinction of feminine from masculine was in all the Semitic tongues expressed by the suffix *-t* (or *-at*), as in the Assyrian *malak* ('king'), *malk*at ('queen'), Arabic *ibn-* ('son'), *bint* ('daughter') Phonetic departures have occurred in the later separate developments, Hebrew having substituted *-th* and *-h*, neo-Arabic in some cases *-h*, etc, but the original form is undisputed

It would be disproportionate to give further details of Semitic grammar The salient facts to be gathered are (1) that these speeches supply us with no new structural phenomena beyond the systematic use of a dynamic vowel-variation ; their prefixes and suffixes in no way differ in principle from those of Bantu, or Malay, or Indo-European , (2) that, like the modern Indo-European, the Malayo-Polynesian, and other tongues, they have shown a marked progress towards analysis

From the genealogical point of view the connection between the several speeches of the Semitic family is rather closer than that existing between the languages even of a single branch of the Indo-European. The Romance or the Slavonic tongues are felt at once to diverge more widely among themselves than do Assyrian, Arabic, and Hebrew. These stand to each other rather in the relation of accentuated dialects, much as Lowland Scotch stands to literary English. The general agreement in phonetics and material, both substantive and formative, as well as in the grammatical

outfit, is very striking.   In some measure this comparative homogeneity is due, on the one hand, to the characteristic inability of Semitic to form new compounds, and, on the other, to the simplicity of the primitive Semitic grammar. Thus each of the separate dialects was restricted in the creation of new words unknown to the rest, and at the same time there were fewer grammatical forms from which the individual idioms could deviate in various directions   Given a profusion of grammatical forms in an Ursprache, one derived speech will abandon some of these and generalise others , a second may abandon some of those which the first has generalised, and generalise some which it has abandoned. Primitive Semitic afforded comparatively little scope for these rapidly disintegrating processes.

The recognised divisions of the family, dead and living, may perhaps be seen best in the following table.   The languages which are wholly extinct are marked with an asterisk, while those in italics are presumed stages without actual historical records

Primitive Semitic

North Semitic

South Semitic

Aramaeo-Assyrian

Canaanitic

'Joktanid'

(old) ARABIC

*HIMYARITIC Abyssinian

Aramaic

ASSYRIAN
(with Babylonian)

HEBREW *Moabite
*Samaritan
*PHOENICIAN
(with Punic)

Ehkili

Neo-ARABIC
(dialects of
Barbary,
Egypt,
Syria,
Arabia)

*GHE'EZ
('Ethiopic')

Tigre

Harari

Amharic

SYRIAC
('Christian
Aramaic')

*Mendaean

*BIBLICAL
CHALDEE
('Jewish Aramaic')

Upon this tabulation the following notes may be made —

Aramaic — The examination of the cuneiforms and of other data leads to the belief that Aramaic was originally the language of the Semitic highlanders to the north of Mesopotamia. From the important centre Carchemish (Jerablus) it spread, as the language of commerce, over Syria, Mesopotamia, and Chaldaea, until it became by about 800 B C. the prevailing (though not the only) tongue in those regions Therefore the *Chaldee* current from that date in Babylon is different from the earlier Chaldaic of the Assyro-Babylonian inscriptions (see the table given above) It was this later, or Aramaean, Chaldaic which was brought back by the Jews after their Babylonian captivity as the language acquired in place of Hebrew, which it entirely supplanted in practical use by the time of the Maccabees From the fact that this tongue is the original language of a few short passages of some of the canonical books of the prophets (Ezra, Daniel, and Jeremiah) it is commonly known as **Biblical Chaldee.** Erected into the *literary* language of the Jews from Maccabean times, Chaldee remained in that position till after the tenth century A D.

Meanwhile the **Syriac,** or Aramaic of Syria and Mesopotamia, came to differ from the Eastern Aramaic, or Chaldee, in appreciable respects, and especially in the position of the accent Its earliest written appearance is in the inscriptions of Palmyra (first century A D.), but it is particularly with Christian documents that its history is associated. Syriac may thus be styled the ' Christian Aramaic,' while Chaldee may be distinguished as the ' Jewish.' The literary connection of Syriac with Christianity begins with the ' Peshito ' (*i e* ' simple,' ' true ') translation of both Testaments, which is usually assigned to the second century A D Syriac flourished till about A D 1000, and played an important part in the spread of science and philosophy by means of translations, as, for example, of Aristotle. Ultimately it gave way before the inroads of Arabic, and it is now represented only

by some scanty dialects about Lakes Van and Urumiyah
It is regularly used, however, in the Nestorian Liturgy

Mendaean was the dialect of a religious sect of Meso-
potamia, and, as preserved in writings of the fourth and fifth
centuries, is a derivative of the general Aramaic, not of
Syriac.

Assyrian (with *Babylonian*) has been read and digested
into grammars from thousands of cuneiform inscriptions upon
bricks, cylinders, and monuments of Assyria and Babylonia
" It presents us, on the whole, with an archaic form of
Semitic speech   In fact, Assyrian may justly be described
as the Sanskrit of the Semitic idioms " (Sayce)   In the
rock-inscriptions of the Great Kings it forms the third text.
The difference between Assyrian proper and the Babylonian
variety is no greater than that between two neighbouring
English or German local dialects.

Canaanitic—The languages of the Canaanitic group are
simply so many local or provincial dialects of the same
speech.   The difference, for instance, between Phoenician
and Hebrew is chiefly that the former employs certain forms
which are archaic for Hebrew, and that the contents of
meaning of particular words do not always correspond in the
two tongues.

The history of **Hebrew** is somewhat complicated.   Its
purest form—that which dates from the pre-Babylonian
period of national independence—is known to us only from
the older portions of the Old Testament.   The Pentateuch,
the Books of Joshua, Judges, Samuel, Kings, the greater part
of the Psalms, Proverbs, the Song of Solomon, Job, and the
older prophets (Joel, Amos, Hosea, Isaiah, etc) represent,
with allowance for a certain amount of later 'editing,' the
'golden age' of the language.

After the Captivity (as has been stated above) the
Eastern Aramaic prevailed more and more in the popular
speech, till ultimately it substituted itself for Hebrew in
literature also.   The period during which this was taking
place may be put down as 536-160 B C.   Priests and

scholars had meanwhile retained the use of Hebrew (more or less modified by Chaldee influences) for religious and educational purposes   It is this 'Chaldaised' Hebrew which is found in the Books of Ezra, Nehemiah, Chronicles, Esther, the prophets Jonah, Daniel, Haggai, Zechariah, and Malachi, and in a number of the Psalms.   After the complete substitution of Aramaic in practical use even for literature,[1] Hebrew was preserved in the rabbinical schools till the twelfth century A D., in a contaminated form known as 'Modern' (or 'Neo-') Hebrew, which has blended Aramaic, Greek, and Latin elements with the true Hebrew   To this period belongs the composition of the *Mishna.*   Since the twelfth century there has been a literary revival of the language, with attempts at a more antique colouring

The **Moabite** dialect appears on the 'Moabite Stone' of about 900 B C.   It is closely similar to Hebrew.

Phoenician is represented by a number of inscriptions on tombs, votive tablets, coins, seals, etc., and by a passage in the *Poenulus* of Plautus.   The most important inscription is that upon the sarcophagus of King Eshmunazar of Sidon (of the sixth century B C)   The remainder are mostly from the Phoenician colonies in Africa, Cyprus, Malta, Sardinia, Marseilles, and Spain.   Those from Tunis and East Algeria are Carthaginian (**Punic**), and the oldest of them are identical with Phoenician ; but the *Neo-Punic* (which lasted in some measure till the fifth century A.D) exhibits important deviations   St Augustine (fourth century A.D), himself practically a Carthaginian, remarks that Punic differed little from Hebrew

Arabic —It is necessary to distinguish between the *Classical Arabic,* which belongs to literature (except in so far as some of the purer Bedouin tribes of interior Arabia

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[1] The change of language among the Jews necessitated the translation, or rewriting, of the Hebrew books of the Old Testament   These translations (the 'Targums') are, however, not pure specimens of the Eastern Aramaic of the Captivity, the Western or Syriac influences of a later date being very strong

The Syriac influence was naturally more powerful in the north of Palestine, and the language of the Galilean Jesus Christ was therefore *Syro-Chaldaic*

have retained the same language in current speech), and the *Neo-Arabic*, as actually spoken in modern times from Barbary to the Persian borders. The latter differs from the former in its advanced analytical character (particularly shown in the rejection of case-inflection, in which it has at length arrived at the same point as Hebrew), in a measure of phonetic corruption, and in certain changes of vocabulary (chiefly borrowings from foreign sources). Classical Arabic is of the old Koreish dialect of Central Arabia, which was raised to the position of the standard language by Mahomet[1] Its golden period was that of the poems (the *Moallakāt*, etc), which came into existence shortly before Islam, and of the *Korān* as revised and authorised by the Caliph Othman (*circ.* A.D 650). As compared with Canaanitic or Aramaic the classical Arabic is evidently nearer to the primitive Semitic in point of structure. Modern Arabic has ousted most of the other Semitic as well as Hamitic languages, and is now spoken with slight differences in each of the four chief regions—Barbary, Egypt, Syria, and Arabia *Maltese* is a corrupt jargon, while *Mosarabic*, once spoken by the Moors in Spain, is extinct. The influence of Arabic has been very marked upon the vocabulary of Persian, and thence of Turkish on the one side and of Hindustani on the other ; and the language itself has penetrated deeper and deeper into the heart of Africa A number of terms connected with science or commerce have found their way into European tongues (e.g. *algebra, cipher, zero, magazine,* etc).

Himyaritic —The Himyarites of South-West Arabia (Yemen) formed along with, or as successors to, the Sabaeans a powerful kingdom, including Aden, Mocha, and the neighbourhood Subsequently they were overcome by the more northerly Arabic-speaking Mohammedans. Linguistically the term Himyaritic is applied to the large number of both Sabaean and Himyaritic inscriptions found in their

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[1] Compare the effect of Luther's Bible in Germany, of Attic literature in Greece, and of 'Sicilian Tuscan' in Italy.

region, some of which date from before the Christian era. The modern *Ehkılı* (or *Hakılı*) is probably a direct descendant.

Abyssinian Semitic — In prehistoric times Semites crossed the Red Sea from South-West Arabia into Abyssinia, carrying with them a dialect or dialects closely akin to the Himyaritic. The oldest representative of these speeches is the *Ghe'ez* (sometimes unfortunately called *Ethiopic*, a term which leads to some confusion with a group of the Hamitic languages). It possesses a Christian literature, with a translation of the Bible dating from about A D 400. Two inscriptions at Axum belong to about A D 500   Till the fourteenth century Ghe'ez was the Court language, but at that period it began to yield to the younger *Amharic*, and is now a liturgical language only   Along with *Amharic* (of South-West Abyssinia) go the contaminated dialects *Tigre* (of the north), *Tigrine* (of the centre), and *Harari* (of Harar, east of Gallaland).

<center>(11) THE HAMITIC DIVISION</center>

If the Hamitic languages are related by genealogy to the Semitic the separation has been an exceedingly long one, and the very remote original of the two divisions must presumably have undergone large developments before it took, in the one domain, the shape which may be called Primitive Semitic and, in the other, that of such a language as the old Egyptian   It does not, of course, follow from the greater antiquity of discoverable Egyptian that the hypothetical original was structurally nearer to this than, say, to Assyrian.   On the whole, indeed, argument points to a more rapid breaking-down of original methods in the Hamitic region   While the Egyptian noun and adjective possess a dual (in *ui*) and a plural flexion (in *u*, e g. *son*, 'brother,' *son*u, 'brothers '), and both adjective and noun have a feminine (in *t*, e.g *son*t, 'sister '), there is no sign of declension by case-suffixing in Hamitic   In Egyptian

the person-signs are, indeed, suffixed in the inflexion of the verb—with both masculine and feminine expressed in the second and third persons, as in Semitic, e g *uon*k, 'thou (masc) art,' *uon*t, 'thou (fem) art,' *uon*f, 'he is,' *uon*s, 'she is' —but there is very little corresponding to the treatment of the Semitic verb in respect of the 'determined' conjugations. So far, however, as these conjugations do appear they are significant   Thus, according to Professor Sayce, *keb* may give *keteb, keneb, akeb, sekeb* in different senses [1]   With the prefixing in the latter cases we may compare the method in the Tamashek (Berber) causative, *erhin*, 'to be ill,' s*erhin*, 'to cause to be ill,' and in Beja (Ethiopic) *edlub*, 'to sell,' *esdelub*, 'to cause to sell.'   These undoubtedly recall the Semitic devices   Of the characteristic Semitic vowel-variation, however, there is no trace ; and, while Semitic roots are triconsonantal, the Egyptian are generally monosyllabic and uniform   For the most part, as in Malayo-Polynesian, there scarcely exists a distinction between root and word.

The Hamitic languages, in the three main divisions **Berber**, **Egyptian**, and **Ethiopian**, show considerable divergences among themselves   They agree, however, in the use of *t* as the feminine sign   Thus, while Egyptian has *son, son*t , *nuter* ('God'), *nuter*t , *nofer* ('youth'), *nofer*t, Tamashek (Berber), both prefixing and suffixing the element, has *akli* ('negro'), t*aklit* , *ekahi* ('cock'), t*ekahi*t ('hen') , *elu* ('elephant'), t*elu*t.   The Ethiopic Beja has *tak* ('man'), *taka*t ('woman'), and vestiges of the same -t remain in Galla, etc.   The pronouns exhibit a marked relationship   Thus old Egyptian *annuk* (Coptic *anok*) = 'I,' for which the Berber Tamashek has *nek* and the Ethiopic languages some modification of *ani* or *anu*.   'He' is in old Egyptian *entuf*, in Tameshek it is *enta*, in Galla *ini*.   In the suffix-position

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[1] Outside Hamitico-Semitic, however, we might compare (although with great reservations) such a formation as *keneb* with the Indo-European λαμβάνω (root λαβ), *findo* (root *fid*), and se*keb* with English verbs like be*speak* or German compounds with *ent-, zer-, ver-*   Again, *keteb* might be compared with the Malayan and Dravidian infixed roots.

the possessive pronoun of the second person singular is in old Egyptian -*k*, in Tameshek -*k*, in Beja -*k*, and in Galla -*ke*, while in some of the other Ethiopic tongues it appears in the prefix-position as *ku-*

The customary divisions and subdivisions of the Hamitic languages are :—

1. The **Egyptian** branch, comprising—

(*a*) **Ancient Egyptian**, a language which can be traced back in the hieroglyphs for 6000 years, and of which something has been already said. It may be added that, as is usual with cultivated speeches (*e g.* Latin or Sanskrit), there was considerable divergence of the popular, or *demotic*, from the 'sacred,' or *hieratic*, idiom.

(*β*) **Coptic**, the lineal descendant of popular Egyptian, with a Christian literature, written in Greek characters[1] and dating between the second and eighth centuries A.D. This neo-Egyptian tongue survived, though latterly only in the cloister, till some three centuries ago, when it was finally supplanted by the Arabic which had been gradually ousting it since the inroad of Islam. Coptic was greatly influenced by Greek in point of vocabulary, neither was it homogeneous, inasmuch as three dialects are recognisable, a northern (*Bashmuric*), a central (*Memphitic*), and a Southern (*Theban*).

2. The **Berber** (also known as the *Libyan*) group. Originally the Berbers occupied all Northern Africa from Egypt to the Atlantic and from the Mediterranean to the Negro country. They included such peoples as the Mauretani, Numidae, Gaetuli, and Libyans of history, who were at various times dislodged from various parts by Greeks (in Cyrenaica), Carthaginians, Romans, and subsequently by Arabs. Berber languages are still spoken in the Western Sahara (where is to be found the *Tamashek*, which is usually treated as the most representative dialect), in parts

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[1] The influence of Greek on Egyptian was, of course, due in the first instance to the Greek occupation under Alexander, with the consequent Greek civilisation and culture of the Ptolemies and of the later Alexandrine Hellenes and Hellenists.

of Morocco, of Algeria (by the Kabyles, etc), and of Tunis and Tripoli. Up till a century ago the Guanches of the Canary Islands employed a cognate tongue. The old forms of the Berber idioms are in some measure discoverable from a considerable collection of inscriptions

3. The **Ethiopian** group, southward of Egypt. The chief speeches are the *Beja* (between the Nile and the Red Sea, north of Abyssinia), *Galla* (south of Abyssinia to the Equator), *Somali* (from the Straits of Bab-el-Mandeb to Cape Guardafui and southward), *Denkali*, and other dialects in West Abyssinia and neighbourhood.

B *The Indo-European Family*

A family of languages stretching from Northern India through Persia and Armenia, and thence westward and northward, embracing all the speeches of Europe except those previously mentioned (namely, Basque, sundry Ural-Altaic tongues, and speeches of the Caucasus) is not inaptly styled the **Indo-European** The term is not, indeed, altogether ideal, inasmuch as it is perhaps suggestive of a combination of Indian and European, excluding, among others, Eranian and Armenian, rather than of a family which finds its eastern and western bounds in Europe and India respectively. Apart from a certain cumbrousness, however, it is open to less objection than any other title yet proposed, unless it be ' Aryo-European,' which also lacks comprehensiveness. The fact that Europe no longer bounds the European tongues, which are spoken to a greater or less extent in every continent, particularly in America, is of little moment in this connection, since the English, Spanish, and French of North America, the Spanish, Portuguese, etc., of South America, the English, Dutch, etc, of Africa, and the English of Australasia are, as languages, logically included in the term ' European.'

An older title, still habitually retained in Germany, is that of ' Indo-Germanic,' a name which is said to have

originated in the notion that the two geographical extremes (in the old world) were occupied by languages of the Indian and Germanic branches respectively   Since, however, the family equally includes the Celtic tongues in Brittany and the western parts of the British Islands, as well as Spanish and Portuguese, the appellation is manifestly incorrect ' Indo-Celtic ' has accordingly been suggested, but has found no support, the truth apparently being that we instinctively look in the name for something which will express as fully as possible the components of the family rather than specify two particular *termini*.

To call the family ' Aryan,' with some writers, is to extend the name of a part to the whole.   *Arya* was the Sanskrit term (frequent in the *Rig-Vēda*) for one who belonged to the good and proper stock, and, as an adjective, signified ' noble,' the non-Aryas (*Dasyus* = ' foes ') being the Dravidian and other alien and inferior peoples of India The expression was employed also in ancient Erania, and therefore dates from a time when the Indian and Eranian divisions of the Asiatic branch of the family were still one. Beyond these divisions the word has no special aptness, and it is therefore more properly restricted to them

Other attempts at a brief title have proved failures for obvious reasons   ' Sanskritic ' conveys, as will be seen, an erroneous impression as to the position of Sanskrit in the family.   ' Caucasian ' follows an old but quite unscientific ethnological term, and is particularly unfortunate when applied to language, inasmuch as the speeches of the Caucasus (except Ossetian) have no connection with the Indo-European tongues.   ' Japhetic ' sprang from a desire to match ' Semitic ' and ' Hamitic ' symmetrically with another Biblical label, but several of the peoples traditionally deriving from Japhet (Gen x.) spoke languages altogether alien to Indo-European.

In the Indo-European family are included a large number of languages and a still larger number of dialects, dead and living, and these afford unusually ample data for

observing the process of linguistic evolution. At present it will suffice to note the salient features of the family for the purposes of comparison with the tongues already similarly discussed

Since a stage as far back as philological study can penetrate, the speeches of this stock have been amalgamating-inflexional. Nouns and pronouns were inflected in case and number , verbs in number, person, tense, mood, voice. The inflexional modifications were in all cases terminational, *i e.* the flexion is by suffixes. These cannot be credited, even at the earliest discoverable stage, with any capacity for independent existence Nor can it be supposed that those who then spoke the primitive Indo-European tongue were either conscious of any special meaning attaching to a special suffix-element, or, in most cases at least, of the fact that they were combining a root with a suffix The philologist who attempts to dissect the complete words of primitive Indo-European may arrive at a long list of 'stem-forming' or 'case-forming' suffixes , he may discover 'primary' and 'secondary' person-endings, and so on , but he almost entirely fails to discover any independent meaning attaching to those suffixes as separate entities, or any 'pronominal,' 'deictic,' or 'demonstrative' roots from which they may have been corruptions or curtailments. He may feel compelled to believe that originally the said suffixes did possess, in some shape or other, a separate existence and a meaning of their own, and that they were then attached to other 'roots,' in the same way as the affixes in the agglutinating tongues, for the purpose of determining the function or relation of those roots in a sentence Nevertheless, he cannot actually demonstrate the fact He can point out that this or that element serves this or that purpose in the building of a word, but it is extremely seldom that he can show with any plausibility why it does so, or what shape of its own it possessed before it came into such a position.[1]

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[1] Only one or two probabilities can be quoted in qualification of this remark. The locative case in some declensions might apparently either end in *-i* or dispense

So far as a reasonable theory of origin can be advanced in individual cases, the evidence tends, as *a priori* argument would also tend, towards the belief that simple agglutination must be presupposed , but it must be borne in mind that the oldest forms actually deducible for Indo - European are already completely amalgamating   If *ek_uos ('horse') was the nominative, and *ek_uosjo the genitive, the philologist may perhaps, though without certainty, analyse the former into ek-u-o-s and the latter into ek-u-o-sjo.   In ek-u-o-s he may speak of s as a sign of the nominative, and of o as a 'stem-forming' suffix ; but he is in no position to say what was the independent shape or value of the element here represented by s or o.   Nor can he say why a change to the feminine corresponds with a change of form to *$ek_uā$ In *ek_uosjo he cannot tell exactly how much is genitive-suffix and how much is stem-suffix , nor does he imagine that those who habitually used the form conceived of -$osjo$ or -sjo as an element attachable and detachable at will. Similarly, if the presumable third person plural of the present optative passive from the root *$bher$ ('carry') was *$bheroïnto$, it is possible to break it up theoretically into $bher$-o-i-nto and to call o a 'stem-forming' suffix, i a suffix of the optative, and nto a combination of signs for the third person plural and the medio-passive voice.   Even then the 'secondary' ending of the passive differs from the 'primary' ending -$ntai$ How o comes to form a stem, and i the optative ; precisely how much of nto represents the person, and why it does represent it, are matters not yet discovered and perhaps not discoverable

   If, leaving the primitive or 'pro-ethnic' words, we pass on to the separate Indo-European languages in their older forms, we find the amalgamation of root with suffix tending to become (chiefly through phonetic corruption) still more com-

with that sound   It sometimes appears in Sanskrit and sometimes not, and the Greek words *alés* (*aies*) and *alei* (*aiei*) are the direct phonetic survivals of two original forms *aiyes* and *aiyes*-i respectively   These considerations point to a certain independence of a 'deictic' *i*, employed something after the fashion of *ci* and *là* in the French *celui*-ci, celui-là.

plete. It may not be easy in all cases, even in the recon-
structed original, to find the 'root' maintained in a
distinct and consistent shape throughout a series of cognate
words Nevertheless the root is much less disguised there
than it is apt to be in the later separated speeches, such as
Greek, Latin, or Gothic At the same time, with the
phonetic disguising of the root goes a still greater and
progressive obscuration of the suffixes. Root and suffix are
more and more welded into a phonetic unity. To take a
comparatively simple case . if the Indo-European root *es
('be') exhibited in the singular of the present indicative the
forms *es*mi, *es*(s)i, *es*ti, and in the singular of the present
optative the forms *s*iēm, *s*iēs, *s*iēt, we find in classical Greek
εἰμί, εἶ, ἐστί (*eimi, ei, esti*), and εἴην, εἴης, εἴη (*eiēn, eiēs, eiē*)
respectively. In εἰμί (*eimi*), εἶ (*ei*) phonetic corruption has
destroyed the symmetry which existed in the earlier *esmi,
es(s)i*, and the root is altogether hidden. In the case of
εἶ (*ei*) the suffix also is non-apparent. In the case of εἴη (*eiē*),
for which a new formation by analogy (*esiēt* instead of *siēt*)
has to be presupposed, the said *esiēt* (†ἐσιητ), by losing both
the *s* of the root and the *t* of the person-suffix, has effectu-
ally disguised both elements. In primitive Latin the suffix
-*se* formed infinitives, and from roots *vel, fer*, such infinitives
naturally took the shape of †*velse*, †*ferse*. Phonetic cor-
ruption, however, produced *velle, ferre*, combinations in
which the identity of the suffix is wholly lost. A similar
process of obscuring suffixes by phonetic corruption had
probably taken place in pro-ethnic Indo-European, before
the earliest times at which we can arrive, and for this
reason it may remain impossible to discover the original
shape or meaning of a large number of suffixed elements.

The later stages of the separate Indo-European lan-
guages become in all cases more and more analytical.
This is largely due to the fact that the original flexions had
become so corrupted and confused phonetically as to be devoid
of recognisable system. Flexional terminations are therefore
replaced by prepositions, auxiliary verbs, and other help-

words. The growth of these devices can, to a large extent, be traced historically   In the primitive stage analysis was very sparingly employed   The derived languages, such as Sanskrit and the 'classical' tongues, begin to show in their 'synthetic' stage an increasing use of prepositions, free pronouns, and other resolutions.   Later still the modern tongues tend to make their structure depend mainly on word-position, aided by pre-posed auxiliaries and particles Where the primitive noun possessed at least eight cases, the separate speeches have everywhere tended to confuse the use and shape of these, to reduce their number, and ultimately to dispense with them in favour of a single form qualified by a series of prepositions   Of three original numbers (singular, dual, and plural) belonging to the noun, pronoun, and verb, the dual is rejected , while English, for example, hardly regards number at all in the conjugation of the verb No Indo-European tongue indeed has wholly lost the vestiges of the inflexional system.   English and Persian have gone furthest in that direction   Nevertheless, English still pre-serves a suffix-sign for the plural (*-s*, sometimes *-en*) ; a pos-sessive case, e g *man's*, *men's* (which, however, shows signs of passing out of use) , an objective and a subjective form for the pronoun (*thou*, *thee*, etc), and a remnant of flexion-endings in verbs, e.g *love*st, *love*s, *love*d   Traces of a suffix-flexional stage survive also in the case of the 'modified' plurals, e g. *foot, feet*, and of the 'strong' verbs, e g. *see, saw* ; *drink, drank, drunk*   The vanished suffix has left its mark behind, and the language is still flexional in virtue of using such variations of form to express variations of meaning, instead of employing separate help-words in every instance to express number, tense, or other relation.   When it says ' I will go,' or ' of a man,' English is analytic , when it says ' I went,' ' a man's,' it is both flexional and analytic ; if it further combined the sense of the pronoun ' I ' with the verb ' went ' (as in the Latin *ivi*), it would be flexional in the full sense.   In saying *je dirai* French has flexion where English has none (' I shall say '). In substituting, as it commonly

does, *je vais dire*, French makes a further step towards analysis ; but it still carries the burden of flexion in the special form *vais*, since it is not permitted to say equally *nous vais dire* or *vous vais dire*. English, except for the practically obsolete 'thou shalt say,' has reached the stage of complete analysis by leaving the auxiliary uninflected A comparison of primitive Indo-European (so far as it is ascertainable) with classical Latin, then with popular Latin, and next with French, or with Gothic and next with English or German, and so throughout, would show in what various respects and measures the several divisions and subdivisions of the family all make progress in the direction of analysis

Primitive Indo-European roots, as induction arrives at them, are monosyllabic They have, however, no independent existence apart from stem-forming or word-forming suffixes. A person-ending or a case-ending may indeed occasionally be found attached directly to the root without the intervention of a stem-forming element, as in **es-mi* ('I am'), or **u̯ōq-s* ('voice'), but a simple *es* or *u̯ōq* has no place in speech proper Usually the root is built into a stem or base by some element or elements out of a numerous list (*-o-*, *-e-*, *-r(o)-*, *-n(o)-*, *-u(o)-*, etc.), and thereto may be attached further elements one upon another, until the various relations of the complete word (in point of case, number, person, mood, tense, etc.) are fully expressed. Thus δο-θη-σ-ό-μεθα (*do-thē-s-o-metha*) contains elements representing 'give' + passive aorist sign + future sign + stem-suffix + sign of first person plural blended with sign of the passive. So δοῦναι (*dounai*, ' to give ') = δο-ϝεν-αι (*do-u̯en-ai*), and contains elements representing 'give,' noun-stem-suffix, and dative ending, though no Greek was aware of the fact. Obviously these elements do not possess the distinct individuality of those employed in the typical agglutinating languages. The Turkish *sev-in-dir-il-me-mek* combines to a Turk the immediately recognisable series of notions ' love-oneself-make-be-not-to ' ('not to be made to love oneself'), and he possesses a ready consciousness as to which element

conveys which notion   On the other hand, the Greek ἦσαν
(= ἤδσαν, *ēįdsan*), 'they knew,' would, to a Greek, admit
of no distinct analysis.   He would feel that the word was in
some way related to οἶδα (*oįda*), 'I know,' and he might, if
questioned, be aware that he was in the habit of employing
the ending -σαν (-*san*) in certain past connections ; but he
would be unable to dissect the word into its constituent
portions   The Roman would have had equal difficulty with
the corresponding *vīderant*.

Prefixing for flexional purposes forms no part of the
Indo-European method.   Where prefixes occur they are
instances of mere compounding.   The Greek and Sanskrit
'augment' of past tenses, as in ἔδειξα (*edeįksa*), a*dįkšam*, re-
presents a demonstrative word which was originally separate
and optional.   It could, in fact, still be omitted both in
Sanskrit and early Greek   Other prefixed 'determinants'
belong to the same category.   The negative *$\mathring{n}$- (Lat *ın*-, Eng.
un-, Gk. *ă*-, *ăv*-) represents as clear a case of compounding as
the verbs with prefixed prepositions in Latin or Greek, or
those with *be-*, *wıth-* in English, or those with *ver-*, *ent-*, *zer-*
in German

The form of composition called 'reduplication,' which is
so pronounced a feature of Malayo-Polynesian and is found
in many languages, was familiar in primitive Indo-European,
to the extent at least of adding before the root a syllable
either identical with, or accentually modified from, the first
sounds of the root itself.   The Latin *spopondı* (for †*spo-spondı*),
the Gothic *skaıskaıd* (from *skaıda*, 'cut '), the Greek τίθημι
(*tithēmi*, for †*thithēmı*), the Sanskrit *babhūva* and their like
are remnants of a process which was by no means confined
to the forming of 'perfects,' 'presents,' or any other special
tense, and which therefore was not originally inflexional.
A liberal faculty for compounding, indeed, was one of the
chief features of the family, although different branches have
exercised the power in very different degrees.   Sanskrit and
Greek compound whole word-stems freely ; Latin and its
daughter-speeches only slightly , German is fond of com-

pounding and re-compounding such stems, whereas English is very sparing of the device

Vowel-variation of the root itself was a regular phenomenon of the primitive Indo-European, but had originally none of the effect upon meaning or function which was exercised by the much more extensive and systematic vowel-mutation in Semitic   Thus in Indo-European the root *+bher* might also appear as *bhor*, *bhr*, and *bhṛ-*, the root **es* as *s*, the root **sem* as *som*, *sm*, *sṃ*, the root **ei* as *i* or *oi*, but these divergences were apparently brought about only by differences in the position of the main and secondary accents of a completed word, and by a consequent modification of the enunciation given to its 'root' portion   They in no way served to express causative, intensive, or similar modifications of meaning, nor to mark off verbs from nouns, nor (originally, at all events) to distinguish tenses   There is accordingly not the same reason as in Semitic to write a 'root' with consonants only, but it is convenient to give as *the* root that grade of vowel which would occur when the chief tonic accent fell upon it [1]

The flexions of both noun and verb in Indo-European were very numerous.   There were various declensions of nouns (each possessing its peculiarities in the way of case-endings), in singular, dual, and plural.   The exhaustive denotation of number, person, tense, mood, and voice made the complete Indo-European verb an elaborate and complicated structure.   This fact would naturally give scope for a large and rapidly increasing discrepancy between the separate languages when they came to pursue their individual developments   The special phonetic tendencies of a particular tongue, and also its idiosyncrasies in respect of the direction in which the analogical instinct would lead it, combined to break down the old paradigms and to cause the substitution of others, which perhaps corresponded little

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[1] Technically the Indo-European vowel-variation is known by the name of Ablaut   The formative matter (or suffix-material) was itself subject to Ablaut. Thus a suffix might appear as *-ei-* or *-i-*, as *-eu-* or *-u-*, as *-er-*, *-r-*, etc.

to those which another of the tongues had meanwhile evolved. Moreover, the inherited power of composition made the construction of new words habitual, and the new constructions in one division could hardly coincide with those invented in another   Nevertheless the correspondence of the languages now to be mentioned, both in their grammar and vocabulary, is sufficient to leave no doubt as to the boundaries and contents of the family.   We may proceed to detail its several branches, groups, sub-groups, languages, and in some cases dialects, adding such comments as appear most likely to interest the general student

A. The Aryan Branch

(*a*) Indian (or Indic) Division

(i) **Vedic Sanskrit** represents the oldest discoverable form of Aryan spoken in India, and stands to the later classical Sanskrit somewhat in the same relation as the Greek of the Homeric age to that of the fifth century B.C. It is principally distinguished by its more numerous verb-forms, as well as by a difference of vocabulary and phonetics *Vēda* ('knowledge,' and particularly sacred lore) is the name applied to the religious literature of hymns, proverbs, ritual, exegesis, etc, included in various compilations known collectively as 'the Vedas'   The oldest portions of these, the *Mantra* or *Samhitā* of each, contain hymns and proverbs, and the part of the Vedas most important to the philologist is the very ancient *Rig-Vēda* ('hymn-lore'), a collection of over 1000 hymns in 10,580 highly-finished verses, dating from as far back as the year 1500 B C or earlier, when the Sanskrit-speaking people do not appear to have advanced beyond the Punjab   Other portions of the Vedic literature, attached to the Samhita, are the prose 'Brahmanas' (theological and ritualistic), of which a special and more philosophic part is familiar as the 'Upanishads' ('sessions' or

' lectures '), and the ' Sutras,' a kind of schoolman's supplement to the preceding

This huge literature must for centuries have been transmitted orally, and it is not known at what date it was reduced to writing in an 'authorised version.' As in the case of the Homeric poems, we cannot be certain that we possess the hymns of the *Rig-Veda* exactly in their original phonetic character. The text exists in two forms, the one known as the ' Pada '-text, in which the words forming a sentence are written separately in the same shape which they would possess if they stood alone, and the ' Samhita '-text, in which a whole sentence is linked or woven together phonetically into a unity, the constituent words being made to conform to certain euphonic conditions, according to the ' combination-laws ' (' Sandhi ') established by grammarians like Panini (fifth century B C). Thus Monier Williams remarks that, if *rara avis in terris* were Sanskrit and were written as ' Sandhi ' demands, it would take the shape of *raravirinsterrih*. The original form of the Vedic verse has been interfered with by the application of the rules in question.

(ii) **Classical Sanskrit**, or Sanskrit in a narrower sense, is mainly a literary or artificially cultivated issue of the Vedic Sanskrit, from which it differs chiefly in the loss of verbal forms and in the substitution of large compounds where the older language would have constructed clauses. Its beginnings (as distinct from the older stage) may be placed about 500 B.C Sanskrit literature embraced epic poetry (of myth, theogony, cosmogony, etc.), *e g* that of the *Mahābhārata*,[1] drama in verse and prose (the gods, kings, Brahmans, etc, speaking Sanskrit, while women and persons of the lower orders use the ' Prakrit ' or popular dialects), *e g* the *Sakuntalā* of Kalidasa ; lyric poetry (mostly erotic) , beast-fables , tales ; grammatical works , philosophy, science, etc Sanskrit

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[1] The epic called *Rāmāyana* is also of this period. It consists of 48,000 lines, and the *Mahābhārata* of 200,000 The latter is known to have been in existence by 150 B.C

is still employed both as a spoken and a written language by the learned throughout India, and serves much the same purpose as was served by Latin in the Middle Ages in Europe. Being a language of the cloister, it has undergone no modern development, but remains in the form and obeys the rules established by Panini

Though Sanskrit, in its Vedic stage, is ascertainable at a period considerably earlier than the date at which any other Indo-European language is known, it does not follow that its forms are in all cases nearer to those of the primitive Indo-European tongue. It sometimes happens, for instance, that the original is better preserved in a Greek form as well as in a Greek pronunciation. Nevertheless it is the case that the several elements which go to the building up of a word are mostly much more transparent in Sanskrit than in any of the kindred speeches Hence the special value which attaches to it in the elucidation of Indo-European structure. Sanskrit, again, possesses eight cases and three numbers, while Latin retains but two numbers and six cases, and Greek but five cases with its three numbers

(iii) The **Prākrits** — Side by side with the classical 'Sanskrita' (the 'correctly formed' or 'perfect' language), which was employed for purposes of religion and learning, there went in popular use the 'Prākrita' ('derived,' 'secondary,' or 'vulgar') speeches, just as, beside the classical Latin of literature, there went, in the various provinces, a popular Latin, which tended to diverge more and more from the conventional literary type That these dialects were recognised by the third century B C is manifest from the rock-inscriptions of the Buddhist king Asoka, which are in a tongue as distinct from Sanskrit as Italian is from Latin. The Prakrits were natural local developments of the older Sanskrit, and resulted from the loss or phonetic decay of earlier forms and from new creations.[1] In their turn the Prakrits became recognised literary languages in their several quarters, and were thus to some extent fixed, while once

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[1] The Prakrits are classified as Eastern, Western, and North-Western

more the popular speech passed on with further changes,
till the result is a number of modern Hindu tongues   The
Prakrits are chiefly known from the above-mentioned parts
of the old drama, in which women, and persons of the lower
orders, are the *personae*   One speech, however, in particular,
is known from an earlier date, and is frequently distinguished
from the general list of Prakrits.   This is **Pāli** ('writing'),
which was carried by the Buddhist missionaries into Ceylon
and Further India, and became established there as the
sacred language of that religion.   It is in Pali that the
Buddhist scriptures of the *Tripitaka* ('three baskets') are
preserved.

(iv) The **Modern Indian Speeches.**—As the Romance
tongues sprang from various modifications of popular Latin,
so from the Prakrit idioms came the languages now spoken
by some 200,000,000 of the inhabitants of Hindustan   No
precise date can, of course, be fixed as that at which they
ceased to be Prakrit and became 'modern'   Approximately,
however, they may be said to have deserved a new name
from about the tenth century A.D.   Besides the customary
changes caused by phonetic corruption and the reduction of
earlier forms, the tongues in question have been affected by
influences from the Arabic, Persian, and Mongolian speeches
of the various conquerors of India, as well as from those of
the earlier Dravidian population.   As usual, the effect of
both causes has been to substitute to a large degree the
analytical for the amalgamating-inflexional method

The chief modern tongues belonging to this class are
Bengāli and **Urīya** of the north-east (reaching from Assam
into the north of the province of Madras); **Hindi** (with
Hindustani and **Urdu**) in the centre and west of Northern
India (*Hindustani* being *Hindi* with large Arabic and
Persian ingredients, and used as a *lingua franca* for all India,
while *Urdu* is the literary form of the same); **Marāthi** in
the north-west Deccan; **Gujarāti, Sindhi, Punjābi, Kashmīri,**
and **Nepāli** in the regions which their names imply.   It is
in question whether the **Pushtu** (or Pashtu) of Afghanistan

belongs to the Indian or to the Eranian branch, although opinion appears to favour the latter   With these must be associated also the **Gipsy** (or **Romany**) dialects, which came into Europe apparently in the twelfth century, bearing traces in their vocabulary of having passed through Persia and Armenia.   They have since borrowed from Roumanian, Hungarian, Bohemian, German, etc

(β) **Eranian** (or **Iranian**) Division

(i.) **Avestic** (otherwise loosely styled **Zend** and often **Old Bactrian**), the oldest (*i e* in point of records) of the Eranian tongues, is the language of the older extant portions of the *Avesta* or sacred books of Zoroastrianism, as they have been preserved by the Parsi adherents of that religion in India and Persia, with whom they form a Bible or religious manual.   Properly speaking, this book is in no homogeneous language.   Apart from contaminations which it has suffered in transmission from age to age, the language falls into at least two dialects, an older and a younger (although it is an open question whether some of the differences may not be due to place as much as to time).   A portion marked by a specially antique character is that containing the *Gāthas* ('hymns'), a series of compositions in a form of verse which recalls the Vedas, and in a language from which Vedic Sanskrit differs but as a pronounced dialect.   The full *Avesta* ('fixed' or 'canonical text') embraces the sections known as the *Vendidād* (the anti-demoniacal law), the *Vispered* (dealing with sacrificial ceremonies), the *Yasna* (liturgy to various deities), the *Yashts* (mythological-liturgical hymns), and the *Smaller Avesta* (containing devotional exercises from priests, etc).   The *Gāthas* belong to the *Yasna*, and their antiquity is proved by the fact that they are assumed in the rest of the *Avesta* as pre-existing.   The term *Zend* means 'commentary,' and was transferred from the commentary (which is in Pehlevi) on the book to its language.   The book itself is frequently known by the

compound name *Zend-Avesta*, though the Parsi writers more correctly speak of the 'Avesta and Zend.' It might be of advantage to speak of the older Gatha-dialect as the **Avestic**, and to reserve the term **Zend** for the newer Avestic of the other portions   Such a distinction is not, however, agreed upon in philological works   **Old Bactrian** is a title which has been meant to indicate the geographical position of these dialects, as spoken in the eastern part of Iran, while an archaic stage of the Old Persian (to be mentioned immediately) was being spoken in the west.   It has, however, been argued strongly that the Avestic language is in reality Old Median, and that Bactria is but the region to which the Zoroastrian doctrines were transported as a more congenial home

(ii) **Old Persian.**—The language of the cuneiform inscriptions of certain of the Achaemenian kings, viz. from Darius I. (later sixth century B C.) till 330 B.C, is that of South-Western Iran   These inscriptions, which have been discovered at Persepolis, Behistun, etc., may be regarded as representing the chief speech of ancient Persia proper.   Its forms are much worn down as compared with those in Avestic, and the decay in this respect increases appreciably in the later inscriptions, a fact probably due to much collision with the adjoining Semitic tongues   It should be added that little more than 400 different words are represented in these inscriptions.

Neither Old Persian nor Avestic can be considered the *direct* ancestor of the later languages of Erania   These are rather the outcome of such developments among the various Eranian dialects as can no longer be traced

(iii.) **Middle Persian, Pehlevī** (or **Pahlawī** [1]), also, as a peculiarly written language, called **Huzvāresh**, first shows itself on Parthian coins (third century B C), and continues in Persian use till nearly 700 A D.   It was the official

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[1] Explained by Persian scholars as a natural corruption for ' Parthian ' (*i e. Parthav* becomes *Pahlav*)

tongue of the Sassanid dynasty (A D. 226-652), and appears upon its coins as well as in its inscriptions   Into this tongue was modernised the *Avesta,* and in it were written a cosmogony (the *Bundehesh*) and a number of semi-religious works.   Whether it was ever more than a conventional and artificial language is not certain, since, in literature at least, not only in its vocabulary and phonetics but also in its grammar it was much interlarded with Semitic (Aramaean) elements.   Semitic words, indeed, amount to nearly one-third of the text

The question of its popular currency depends, however, upon how it was spoken rather than upon how it was written. As a matter of fact, words which were written as Semitic were read as Persian (just as they are by the Parsis), in much the same way as we pronounce ' for instance' when reading ' e.g,' or ' namely' when reading ' viz.'   Thus what is written as *malkan malka* (' king of kings') was read as *shahan shah.* In any case Pehlevi shows a very marked decay in the Eranian grammatical forms, the declension of nouns and conjugation of verbs having become largely analytical.

(iv.) **Parsi** (or **Pāzend**[1]) was, according to some authorities, meanwhile developed more to the east   According to others it is a modified Pehlevi and an archaising modern Persian. This speech, while comparatively free from Semitic elements, shows the decay of flexion already remarked in Pehlevi The Parsis of Bombay, Gujarat, etc, now numbering about 100,000, carried this language with them when they fled from Mohammedan pressure in the tenth century.

(v.) **Modern Persian** (which differs from Pehlevi chiefly in the numerous incorporated Arabic words and in the script) is usually dated from the national epic, the *Shāhnāmeh* (' Book of Kings') written by Firdusi (A D. 1010)   Firdusi, however, was a deliberate purist, and wrote in a Persian even more free from Semitic elements than the Parsi, whereas, in general, Persian borrowed a multitude of Arabic words and

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[1] *Pā-zend* properly means ' re-explanation,' i e Pehlevi ' explained' in its turn. The illogical Huzvaresh style of writing needed such recasting

even phrases, until its vocabulary has become almost as much Semitic as Indo-European Some of its dialects, however, still remain comparatively pure Modern Persian possesses no grammatical distinction of gender, and practically no case-endings (except a genitive in *-i*, with which we may compare the solitary English case in *'s*), while its verb-tenses are expressed by auxiliaries Along with English it represents the most analytical stage yet reached by Indo-European tongues

(vi) Among Eranian speeches are further included the **Kurdic** dialects, the **Ossetian** and a few other dialects of the south-east Caucasus, and the **Beluchi** of Beluchistan The language of Afghanistan is also commonly referred to Eranian rather than to Indian.

Again, some prefer to reckon the Ossetian with the next branch of the family, the Armenian

B. The Armenian Branch

The question whether Armenian should be included in the Eranian division of the Aryan branch, or treated as an independent member of the Indo-European family, is hardly left open. The latter view is much better supported, since, on the one hand, many resemblances with Eranian vocabulary are naturally due to borrowing by Armenian, while, on the other, Armenian flexion and phonetics show peculiarities which distinguish them markedly from the Eranian The ancient tradition (known to Herodotus and Eudoxus) connected the Armenians with the Phrygians both in descent and language, and the Phrygians certainly entered Asia Minor from Thrace

Our earliest knowledge of the language begins with cuneiform inscriptions in the neighbourhood of Van. Its literary records proper date from the Christianising of the country, and in the **Old Armenian** shape extend from the fourth century to the eleventh. This 'classical' Armenian was originally the dialect of the Ararat region

It is still the conventional learned and religious tongue, while a more popular speech, the **Neo-Armenian,** has supplanted it in current use   The latter is marked by differences of pronunciation as well as by an admixture of Persian, Turkish, and other foreign words, and is varied by at least four dialects.   The Armenians of Europe (Constantinople, etc) have developed phonetic novelties of their own. Armenian still retains a fair measure of both declension and conjugation flexion

C. The Hellenic (or Greek) Branch

Dialects of Greek, differing comparatively little from each other except in phonetics, were spoken in early historical times not only in the modern European Greece, but in ' Hellas' generally, including the south of Italy (Magna Graecia), Sicily, all the Aegean Islands, Crete, Cyprus, Cyrenaica, much of the western part of Asia Minor, and various localities round the Black Sea in which Greek colonies had been planted.   The earliest extant documents of the language are the Homeric poems, the *Iliad* and *Odyssey*, which probably date from at least as early as the tenth century B.C, but which presuppose the existence of a considerable body of verse already in vogue.   Owing to the necessity of oral transmission for several centuries over regions differing in dialect, the Homeric poems have not been preserved with the precise forms and pronunciations in which they were composed   Nevertheless the archaisms are ascertained with sufficient accuracy to carry far back the history of the tongue.   Even in the Homeric time dialects must have been numerous, and the epic of that day was already somewhat artificialised from older models in point of vocabulary, phonetics, and flexion.

In the post-Homeric and historical period the chief dialects may be grouped as follows   In their purest form they are chiefly ascertainable from inscriptions, inasmuch as their literature is not only often very slight, or even non-

existent, but also mostly aims at a style in which the more pronounced local peculiarities are replaced by forms of a wider standard.

(*a*) **Doric**, with its varieties in Laconia (with Tarentum and
        Heracleia in South Italy).

    Messenia.

    Argos (and Aegina).

    Corinth (and Corcyra).

    Megara (and Byzantium).

    Crete.

    Sicilian colonies from the Peloponnese.

    Rhodes.

    Various Aegean islands (*e g*. Thera, with which goes
        Cyrene).

(*β*) **North-West Greek.**—The dialects of Phocis, Locris,
        Phthiotis, Aetolia, Acarnania, Epirus, Achaia, and
        perhaps Elis   (These are often loosely and errone-
        ously classed with the Aeolic.)

(*γ*) **Aeolic**, with its branches in
    Lesbos and Asiatic Aeolis
    North Thessaly.
    Boeotia

(*δ*) Arcadian (with Cyprian).

(*ε*) Iono-Attic, with its well-marked divisions
    Ionic.
    Attic (in an older and a younger shape)

The predominance of Attic literature and culture, established by 400 B.C, and the fact that subsequently Attic became the recognised Court language of the Macedonian conquerors, combined with the loss of independence on the part of the several Doric, Ionic, Aeolic, and other states, caused the establishment, about 300 B C, of a 'common' literary and official dialect for the Greek world. This was known as the **Koinê** (ἡ κοινὴ διάλεκτος), and was based on Attic   Naturally, however, it departed from strict Attic in respect of certain of the finer grammatical usages of that standard, as well as in the addition of novelties from various

sources.   Spread thus over the Macedonian Greek world of Asia Minor, Syria, Egypt, etc, the Koinê came to degenerate with time and to possess its local peculiarities , and, if writers like Lucian, and other 'Atticists' before him, attempted in the first and second centuries A D a literature which should be pure Attic of the classical age, they did so with difficulty and not always with success[1]   Meanwhile —as specimens of marked divergence—there arose in Macedonia a mixed *Macedonian-Greek* dialect, and in Alexandria an *Alexandrian* or 'ecclesiastical' Greek, mixed with Jewish and Egyptian elements   The latter is the language of the Septuagint, and was the parent of the *Hellenistic* Greek of the New Testament.   Both these local dialects differ widely from the recognised Koinê

Later, during the Byzantine times, the vocabulary of the Koinê became more and more corrupted with foreign words ; terms shifted their meanings , the grammar was much confused or forgotten, both in its flexion and syntax   From this corrupted Byzantine stage comes the **Modern Greek.** (The title **Romaic,** which is still in occasional use, properly belongs to the popular language during all the time that the Greeks of the Eastern 'Roman' Empire called themselves *Rōmaioi*).   As actually spoken, this language was tending to become a collection of local patois, mixed with Italian, Turkish, Slavonic, and other foreign elements ; but for the last century attempts, by no means ineffectual, have been made to reinstate in literature and education a Greek which aims at least at the classicism of the old Koinê.   The consequence is that both literature and conversation now differ on different occasions according to the cultivation of

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[1] Jannaris (*Historical Greek Grammar*, § 013) says of the Graeco-Roman period (150 B C.-A D 300) that four strata can be recognised in its Greek   (1) the *Atticists*, "who adhere rigidly to classical Attic," *e g* Dionysius Halicarnassensis, Lucian, Aristides, Pausanias, etc , (II) the *common* or *conventional* school, who follow Attic "with many concessions to the spirit of the times," *e g* Polybius, Diodorus, and Plutarch , (III.) the *Levantine* group, including "Asiatic Greeks and Hellenised foreigners" , (IV) the *colloquial*   These, of course, can only represent distinguishable planes connected by many intermediate degrees.

the user or of the persons to whom they are addressed. The 'best' literary language, while much closer to ancient Greek than any Romance tongue stands to Latin, is, on the other hand, far more widely severed from the average spoken language than is the case with any other national literary language in Europe. Taking the mean of Neo-Greek in practical vogue, we find the chief differences between it and ancient Greek to consist in (i) pronunciation[1]: for example, the sounds v, ι, η, $v\iota$, $o\iota$, $\epsilon\iota$, η, which were originally distinct, have become merged in one sound ι (= Eng *ee*), in the combinations av, ϵv, the v is pronounced as v or f, δ as *th* in 'then', (ii.) accent the old vowel-quantity is ignored and the pitch-accent has become a quantitative or 'stress' accent; (iii.) flexion and syntax. *e.g.* the dual has disappeared, the classical dative is abandoned in favour of prepositional phrases; the other cases show confusion of use; the optative mood, and the future, perfect and pluperfect tenses, are lost and replaced by auxiliaries; a clause with particle is used instead of the infinitive, etc, (iv.) vocabulary new words have been coined, old words phonetically corrupted, and foreign words imported.

Modern Greek is spoken in Greece proper, in some parts of European Turkey, on the coasts and islands of the Aegean Sea and the Sea of Marmora, in Crete and Cyprus, and along the southern, western, and north-western shores of Asia Minor.

D. The Albanian (or Illyrian) Branch

A number of dialects, usually grouped under the two heads *Ghegh* (to the north) and *Tosk* (to the south), spoken by the Albanians or Arnauts of Albania proper, as well as by those resident in Greece, are admitted to belong to the

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[1] Classical Attic pronunciation is in many points highly disputable. The view held here is the Erasmian (in the proper sense of that term). The argumentation of the Reuchlinians, supported by Jannaris, is frequently turbid and inclined to proceed in a circle More satisfactory for the most part is the work of Blass on the *Pronunciation of Ancient Greek* (trans. Purton)

Indo-European stock, while it is perhaps impossible to determine their exact position in the family. The records for the history of the language begin only with the seventeenth century, and are rather scanty. Moreover, thanks to a series of political circumstances, the vocabulary is largely mixed with Latin, Slavonic, Roumanian, Turkish, and Greek words. It can, again, hardly be an accident that the article should be suffixed in Albanian as it is in the contiguous Bulgarian (a Slavonic tongue) and the Roumanian (an Italic) Though much debased, the flexion is distinctly Indo-European.

Albanian dialects are spoken by more than a million and half of people in a region south of the Schar mountains and the river Drin, bounded by the Slavonic languages of Montenegro, Servia and Bulgaria, the Macedo-Roumanian (Vlach), and Greek.

Albanian is apparently the sole survivor of a wider group of dialects once spoken all along the east coast of the Adriatic as far as the Corinthian gulf, and thence carried across to the south-east of Italy, where they were employed by the Messapians, Iapygians, Daunians, and others The whole branch may be styled *Epirot-Illyrian*, and its divisions may be thus arranged —

$$\text{Epirot-Illyrian} \begin{cases} \text{Illyrian} \begin{cases} \text{Venetian } (i\ e\ \text{ of the Veneti}) \\ \text{Liburnian} \end{cases} \\ \text{Epirot} \begin{cases} \text{Albanian} \\ \text{Messapian-Iapygian } [1] \end{cases} \end{cases}$$

E. The Italic Branch

Apart from the (unknown) *Ligurian*, the *Etruscan* (which is almost certainly not Indo-European), the *Messapian* or *Iapygian* (of which very little is known, except that it was Illyrian in origin), and the *Greek* dialects of Magna Graecia,

[1] It is believed that the name *Graeci* for the Hellenes was carried into Italy by these immigrants, whose knowledge of the Greeks was mostly connected with the neighbouring tribe Γραικοί of Epirus

the peninsula of Italy was occupied in the earliest historical period by closely cognate Indo-European languages, which fall into two main divisions, known to philologists as (*a*) the **Umbro-Samnitic,** (*β*) the **Latin.**

(*a*) In the **Umbro-Samnitic** group are included in particular the *Umbrian, Picentine, Sabine, Marsian, Volscian* and *Oscan* speeches, extending along each side of the middle Apennines from Northern Umbria as far south as Apulia and Lucania. Umbrian had formerly occupied a wider territory, including the plain of the Po and much of Etruria.

Only the Umbrian and Oscan afford sufficient material to concern us, and these two, whatever their divergences, so far agree in certain phonetic and grammatical characteristics which (apart from vocabulary) mark them off from the Latin division, that we are justified in coupling them in classification, even while we treat them as distinct languages.[1]

Oscan was the language of the Osci (= Opsci), the Opici of the Greeks, a people originally settled in the neighbourhood of Beneventum and Capua By the Romans the name was applied to both the Oscans proper and the Samnites (or Sabellians) in general, their speech being the same. As a language, Oscan was for some centuries of great importance in southern Italy, occupying as it did Campania, Samnium, and a portion of Apulia. It was still the popular speech of those parts in the first century B.C, and probably maintained itself in the mountains till some centuries after the Christian era. Its chief records, besides legends on coins and words quoted by Latin writers, consist of some 200 inscriptions. Of these the most important are (i) the 'Tabula Bantīna,' a

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[1] Thus for the *qu* in such Latin words as *quis, quam,* Umbro-Samnitic exhibits *p* (Umbr *pis,* Osc. *pam*) , for *ct* (*kt*) it shows *ht* (the *h* implying a pronunciation like *ch* in 'loch'), as in Umbr *rehte,* Osc *Ohtavis,* representing the Latin *recte, Octavius* respectively ; where Latin has an interior *b* (derived from an original explosive aspirate), Umbro-Samnitic has *f,* e g Umbr. *tifi, ife,* Osc *sifei,* for Latin *tibi, ibi, sibi.* In respect of flexion we find that, whereas Latin made the genitive of nouns in -*a* end with -*ae* (except in an odd survival like *paterfamilias*), Umbrian and Oscan both retain the old -*as* Similarly their genitive of nouns of the second declension in -*us* takes the shape -*eis* (-*es*), while in Latin a peculiar genitive in -*i* was developed.

bronze tablet, discovered in 1793, referring to the administration of the town of Bantia, and bearing the Oscan on one side and the Latin on the other , (ii) the ' Cippus Abellānus,' a monumental stone (which was serving as a door-step when found in 1740), inscribed with a contract made between the towns of Nola and Abella ; (iii) a bronze tablet of Agnone, containing the inventory of a temple   The remainder, which were mostly found in Campania, are of little individual account

Umbrian, which became confined comparatively early to the mountains on the left bank of the Upper Tiber, is known from the ' Eugubine Tables ' (*Tabulae Iguvīnœ*).   These seven large bronze tablets, having reference to the liturgical acts of a corporation of priests, were discovered in a cellar at Gubbio (= Eugubium or Iguvium) in 1444.   Of the seven, five are written in the Umbrian characters and two in the Latin   Their dates are uncertain, but the earlier parts are not likely to have been more recent than 200 B C.   In any case they supply us with the knowledge of more than a thousand Umbrian words, and therewith of the characteristic Umbrian grammatical forms.

(β) The **Latin** division of Italic demands a fuller treatment.   Ancient Latin was properly the language of the plain of Latium, and, as both a literary and a spoken tongue, grew in importance with the growth of the Roman empire, until, from a local idiom, it became the recognised speech of those parts of Europe now occupied by the Romance languages, and the official speech of an area more extensive still.   In a large measure its spread within the Italian peninsula itself was facilitated by the fact that the chief elements of its grammar and vocabulary were closely akin to those of the Umbro-Samnitic dialects above mentioned, while beyond Italy it met (in the West at least) with a people peculiarly adaptable and receptive in matters social and linguistic.

Meanwhile Latin itself, both in early and later times, was affected in sundry ways by the cognate dialects, first

those in the neighbourhood of Rome, and then those farther afield. For that reason the 'phonetic laws' of Latin proper are often difficult to formulate with the same precision which may generally be applied in Greek for example. Soldiers and others speaking Umbrian or Oscan dialects would naturally form a large proportion of a Roman army or colony, and it might appear that insufficient weight is usually allowed to this consideration, when the growth of the 'popular' Latin, as distinct from the literary, is in question.

The history of Latin falls most naturally into three periods. The first, or **Old Latin**, is mainly represented by inscriptions dating from the fifth century B.C , and descending to the latter part of the third The differences between this and the second or 'classical' period consist in a heavier pronunciation, sundry more archaic forms, and words which became obsolete. The **classical** period is that of the well-known Latin writers from the last decades of the third century and onward for some 400 years. Meanwhile the vulgar speech had come to diverge more and more widely from the language of literature, until the latter was as artificial or conventional as classical Sanskrit compared with the Prakrit dialects It is not, however, solely upon a decay of the popular speech that the blame must be laid. The literary language had itself courted distinction by means of certain affectations, particularly of Graecisms. The *sermo plēbēius* (or *rūsticus*) had, indeed, preserved many forms and expressions ignored in the fashionable world of letters, a fact which is clear to those who compare the language of Petronius, for instance, with the language of Plautus. Even in Ciceronian times the colloquial epistolary Latinity of the Romans differs from the learned or rhetorical in much the same respects, if in a smaller degree Nevertheless the vulgar speech had been anything but stable. Everywhere it tended to phonetic decay and to grammatical analysis (*e g*. to the substitution of prepositional phrases for noun-cases, and of an auxiliary with the infinitive or participle for

a future or a perfect) It is this current language of the people which formed the **Neo-Latin** diffused throughout the provinces of the Roman empire, and destined to become the parent of the Romance tongues It is worth while to remark that Neo-Latin is not to be confounded with 'Low Latin' The latter is a late and artificial hybrid, a jargon used with a literary intention and containing words and forms more or less invented *pro re nata.*

Spread over Italy, Sicily, Spain, Gaul, Dacia, and in a considerable measure over other parts of the Roman world, the Neo-Latin naturally acquired various peculiarities in various regions, and this for two reasons The imposing of a language of conquerors on the conquered implies intimate and continuous social intercourse. It was impossible for the Latin to be thus gradually imposed on the earlier populations—Iberians, Celts, Dacians, etc.—of the several provinces, without being itself acted upon in turn by their phonetic peculiarities and occasionally by their vocabulary. In the second place, inasmuch as the provinces were settled by soldiers, traders, and others, coming from various parts of an Italy full of dialects, there would frequently be a noticeable difference in the Latin which was imported in the first instance into two given districts From these two causes (though, no doubt, chiefly from the former), the **Lingua Rōmāna** soon possessed a special and characteristic Gallic, Spanish, or other colouring Nevertheless the ground-material of the vulgar Latin of Gaul, Spain, etc, was the same, and was differentiated from the classical Latin in the same salient respects. A comparison of the Romance tongues will show that, even before the diffusion, and before the local and non-Latin influences had coloured the Latin of each province, the popular Latin of the empire at large had established an 'unclassical' vocabulary and a more analytical grammar of its own It is clear, for instance, that while the higher literature said *equus* ('horse'), *iter* ('journey'), *ōs* ('mouth'), *īgnis* ('fire'), *comedere* ('eat'), the popular Latin said *caballus, viāticum, bucca, focus, mandūcāre.* Hence the

French *cheval, voyage, bouche, feu, manger,* and the Italian *cavallo, viaggio, bocca, fuoco, mangiare.* Similarly the vulgar Latin had developed the demonstrative pronoun *ille, illa* into a definite article (Italian *il* or *lo, la* ; French *le, la*), and the numeral adjective *ūnus* into an indefinite article. It had confused the noun-cases both in use and pronunciation, till it became necessary to replace them by prepositional phrases (*dē, ad,* etc) ; it had substituted such expressions as *habeo habūtum* (French *j'ai eu,* Italian *ho avuto*) for the perfect *habuī,* and *habēre habeo* (Fr *j'aurai,* It. *avrò*) for the future *habēbo* ; and had otherwise corrupted or transformed the grammar in an analytical direction.

Starting with this common material, the grammar and pronunciation became increasingly broken down in each province, as the language came in contact with such foreign rivals as happened to exist in the particular locality. Thence (as well as from special additions to the vocabulary derived from special historical experiences) came those ever-increasing local divergences which eventually developed into mutually unintelligible languages—the Spanish, Portuguese, Provençal, Italian, Roumanian, and other dialects. Thus the Latin which was spoken by Roman colonists of all grades in Spain among Iberians and Celt-Iberians, and which, after some generations, came to be spoken by the Iberians and Celt-Iberians themselves and by the mixed race of their descendants, naturally acquired a more or less Ibericised pronunciation, widely dissimilar from the Gallicised pronunciation which grew up among the 'Romans' of Gaul. The political and social (and in this case also literary) influence subsequently exerted by the Moors led to a still further separation from the Gallic *rōmāna,* which, in its turn, was subjected to influences from the Teutons.

Having thus led up to the formation of the several Romance tongues, we may proceed to speak briefly of each of these.

(*a*) **Italian.**—The *sermo rūsticus* of Italy, while pursuing

the spontaneous development which would lead it away from literary Latin, received a certain assistance in that direction from the effects of the Gothic conquest. The grammatical disintegration was in some measure quickened by contact with the foreign tongue ; a series of Teutonic words was adopted ; and, withal, the literary Latin was partially reduced from its dignity as a conventional standard   By the tenth century the speech of Italy is distinctly modern   Nevertheless, however far the *lingua vulgaris* may have advanced both in development and vogue, it is not till the twelfth century that we meet with a literature which dared to appear in the tongue which was alive rather than in the one which was petrified.   One reason for this phenomenon is to be found in the existence of numerous dialects, none of which was pre-eminent in perfection of form or in material importance.   Dante enumerates fourteen of these, rejects them all as literary standards, and seeks to erect into this position an eclectic *lingua aulica* (or *illustris*), an Italian as artificial as the Ciceronian style was artificial Latin. The language which has actually taken the place of standard is ' Sicilian ' Tuscan.   This form of Italian, less remote from Latin than most of the local dialects, was first cultivated at the mixed Court of Frederick II. in Sicily, and, after being thence adopted by Italian poets generally, found its most distinguished treatment (though with Tuscan modifications) in the hands of such men as Dante, Petrarca, and Boccaccio.   Meanwhile the dialects of Italy have retained a somewhat unusual independence of the standard language of the grammarians.   Not only are they employed in the speech of educated Italians, but each has produced its own literature.   The chief dialects still extant are —

(i.) The Northern : Genoese, Piedmontese, Lombard, Emilian, and Venetian ; (ii.) the Central · Corsican, Tuscan, and Roman ; (iii.) the Southern   Sardinian, Neapolitan, Calabrian, and Sicilian.   Of these the central dialects are

the nearest to the antique type. At the present day Italian is spoken in Italy proper, Corsica, the Swiss canton of Ticino, the Southern Tyrol, Trieste, and along the coasts of Istria and parts of Dalmatia

(*b*) **Rhaeto-Romanic** (otherwise called *Rhaetian, Rou-mansch,* or *Ladin*) is a Neo-Latin language (not a mere variety of Italian), spoken in the Swiss Grisons about the Upper Rhine and Inn, in a part of the Austrian Tyrol about the Adige, and in Italy about the river Tagliamento and thence eastward into the Austrian province of Goritz. The number of persons speaking this tongue is about half a million, of whom more than three-fourths are in the eastern (Friuli) division. The name **Ladin** is sometimes more particularly applied to the dialects of the Engadine Protestants, while **Roumansch** is used of those of the Grisons Oberland The eastern division of Rhaeto-Romanic possesses inscriptions of the twelfth century, while the oldest literary documents proper are religious works of the sixteenth century. Three-fourths at least of Rhaeto-Romanic words are of Latin origin ; the rest are mostly derived either from Teutonic or from old Rhaetian sources.

(*c*) **Roumanian** (less correctly *Wallachian,* a purely relative title applied by the Germans in the sense of 'foreign,' *walh-*), is the outcome of the popular Latin first carried into Dacia (the modern Wallachia and neighbourhood) by the colonies of Roman legionaries planted by Trajan at the beginning of the second century A D. The history of the speakers of this *limba romanesca,* whose territory has varied at times between the north and the south of the Danube, has been entangled with that of Teutons, Slavs, Greeks, and Bulgars in ways which have left obvious traces upon the language. In vocabulary it has been calculated that over 40 per cent of words in literary use are Slavonic, less than 35 per cent popular Latin, and the rest derived from Turkish, Greek, and other sources. Some words are probably old Dacian. A peculiarity of the language as compared with the other Romance tongues is that the article

is suffixed, as in Bulgarian.   Thus *omul* (= Latin *homo ille*),
'the man,' *ochiul* (= *oculus ille*), 'the eye'

Roumanian is spoken by about ten millions of persons,
of whom some nine millions form the northern or *Daco-
Roumanian* division, in Roumania proper (*i e* Moldavia and
Wallachia), Bessarabia (in Russia), and, within the Austrian
empire, in a large part of Transylvania, Bukovina, the Banat
of Temesvar, and S E. Hungary (to Arad), as well as in a
portion of N.E. Servia   Within this area dialectical differ-
ences are of little account   A southern division, which
possesses no literature, is formed by the *Macedo-Roumanian*
(or *Vlach*) of parts of Roumelia, Macedonia, and Thessaly.
This has been much influenced by Greek and Albanian.

(*d*) **Provençal,** the earliest of the Romance languages
to take a literary shape, was formerly known as the *Langue
d'oc*, while that of Northern France was the *Langue d'oil, oc*
(Lat. *hōc*) and *oil* later *oui* (Lat. *hōc illud*) being their
respective words for 'yes.'   Properly the speech of Provence
was but one dialect of a *langue d'oc* spoken over most of
Southern France, in Provence, Auvergne, Limousin, Gascony,
etc, as well as in N E Spain (Catalonia, with Aragon,
Valencia, and the Balearic Islands)   The importance,
however, of the literature which was fostered by the Court
of Provence, under its Barcelonian counts, and which
flourished in the twelfth and thirteenth centuries as the
model for the troubadours and other poets of Western
Europe, caused the language itself to assume the name of
Provençal   Meanwhile the French of the north had been
growing in estimation , the regions of the *langue d'oc* of
France became politically united to those of the *langue d'oil*
in the thirteenth century , the Provence country itself was
devastated in the wars against the Albigenses , and the
Provençal language thenceforward sank into a *patois*   In
a modern form it is still current in the far south-east of
France, and has recently received a share of literary
cultivation from patriotic *littérateurs* like Mistral.

That Provençal forms a natural connecting link between

Italian and French may be seen from such a sentence as that which begins the Lord's Prayer, viz., *paire nostre que ets el cel, sanctificats sia vostre noms.* On the surface the language appears nearer to Italian. The fact is not so much due to closer geographical connection as to the greater rapidity with which the *lingua romana* of Northern France developed phonetic corruptions and grammatical changes under pressure from various quarters.

Perhaps the earliest period at which Provençal may be regarded as an established language is the ninth century, beyond which its first productions—a popular poetry— cannot be traced

(*e*) **Spanish.**—The popular Latin, carried into Spain, came into collision, in the first instance, with existing speeches of the Iberians and Celt-Iberians, a remnant of the former still holding its ground in the shape of Basque Certain provincialisms were the necessary consequence. The subsequent conquest by the Visigoths produced little effect, but the occupation of Spain by the Arabic-speaking Moors, who were numerous and remained in more or less influential intercourse with the Spaniards for nearly eight centuries, led to a considerable modification of both phonetics and vocabulary. In these respects, indeed, Spanish is further removed from its Latin parent than any other Romance tongue. Thus the pronunciation of *j* and *g* (before *e* and *i*) is that of a strong so-called 'aspirate' spirant, like the German *ch*, and the general tendency of the language has been to harden rather than ease the consonants

The oldest traces of the language occur in glosses in the *Origines* of Isidore of Seville, dating from the seventh century, but there is nothing in the shape of Spanish writing proper until the latter part of the twelfth.

Of the several dialects which occupy or have occupied Spain, the recognised type for literature and society is that of Castile. This is the official tongue for Spain itself, as well as for those parts of South and Central America and

the West Indies which were colonised by Spaniards (Argentina and the La Plata countries, Chili, Peru, Bolivia, Ecuador, Venezuela, Colombia, Nicaragua, Guatemala, Mexico, Cuba, etc) It is naturally heard in parts of the Philippines. In the peninsula itself the speech actually current in the east (Valencia) and north-east is *Catalonian* (which once occupied Aragon also), and in the north-west *Galician*, a tongue which goes with Portuguese.

(*f*) **Portuguese** (with which goes Galician), in view of its peculiarities of grammar, phonetics, and vocabulary, is not to be regarded as a mere dialect of Spanish, but as a distinct language. Apart from the spontaneous divergences in its natural development, it on the one hand received an admixture of French words through the accession of a French dynasty, and, on the other, was less affected by Moorish influences. Its earliest records date from the latter part of the twelfth century.

Portuguese is now spoken in Portugal, Brazil, the Azores, Madeira, on parts of the African coast (east and west), and at Goa in India

(*g*) **French**—Over the area now occupied by the French language in Europe there were spoken, before the introduction of the *lingua rustica* of Latin, at least two altogether different tongues, viz, the non-Indo-European dialects of the 'Iberian' or 'Euskarian' type, of which the Basque of the Hautes and Basses Pyrénées is a remnant, and also varieties of the Celtic branch of Indo-European. The Celtic was much the more widespread and important, being spoken by both the Belgae and the Celtae of Cæsar. Teutonic dialects also enjoyed an irregular existence in the neighbourhood of the Rhine.

How much modification the popular Latin may have undergone through contact with these earlier denizens it is impossible to tell Philologists have little or nothing to say of the Euskarian element. The Celtic left remarkably few external traces upon the language of the Gallo-Romans, the principal being a few contributions to the vocabulary,

e g. (in their modern shape) *heue, cruche, pot, ruche, harnais.*
Teutonic influences appear in a very slight degree in the
fourth century, when Germans were permitted to settle in
Northern Gaul and many of them were serving with the
Gallo-Romans under the eagles   Early in the fifth century,
however, the invasion of German tribes (Franks, Burgundians,
Visigoths, etc), and the subsequent domination of the Franks
in Northern France, led to the incorporation into the Neo-
Latin of a series of Teutonic words, chiefly connected with
war and feudalism.   A long list of words, which in modern
French appear as *sénéchal, maréchal, auberge, guerre,* etc.
(from *siniscalh, marahscalh, heriberg, werra,* etc), came in at
this period in a form phonetically and flexionally adapted to
the 'Roman tongue' as spoken in Gaul   As usual, these
collisions of languages caused no mixture of grammar, but
simply hastened the confusion of systematic flexion and the
tendency to analysis which were already proceeding spontane-
ously.   By the seventh century a **lingua romana** widely
distinct from Latin prevailed in Northern France.   Preachers
under the Franks use Latin, Romana, or German according
to circumstances, and in A.D. 813 the Council of Tours
orders that exposition shall be regularly made in the
'Romance tongue.'

The earliest extant document for the determination of
the *lingua romana,* which was irresistibly gaining recognition,
is a list of glosses of Latin words found at Reichenau and
dating from A.D. 768.   Thus *tugurium* ('hut') is glossed by
cabanna (modern French *cabane*), *galea* ('helmet') by *helmo*
(modern French *heaume*).   A Romance poem on the
martyrdom of St Eulalia belongs to the ninth century, and,
by the tenth, French (as the **langue d'oïl**) may claim to be
an established language.   It was not, indeed, homogeneous.
Northern France was politically divided under dukes or
counts into the four provinces of Normandy, Picardy,
Burgundy, and the Île de France, each with its own dialect,
known respectively as *Norman, Picard, Burgundian,* and
'*French.*'   The fact that the Île de France lay in the centre

or key position, and that its dukes, the Capets, organised the feudal centres into a monarchy with the capital at Paris, caused the 'French' of the Île de France to become the special type of the *Langue d'oil*   By the thirteenth century it was not only predominant in the north, but was rapidly replacing the *langue d'oc* in the south.   Indeed it was already gaining something of that international currency which until lately belonged to modern French, if we are to judge from the significant fact that the Italians Marco Polo and Brunetto Latini chose to write in it.   None the less the Norman, Picard, and Burgundian dialects continued to be in reputable literary vogue down to the fifteenth century   They still maintain themselves, but as *patois* only.   For the philologist their influence on the phonetics of standard French cannot be ignored.   The *Wallon* of Belgium, in its two varieties of Liége and Namur, must be added to existing dialects of French.

The title **Old French** may be conveniently applied to the language between the ninth and thirteenth centuries Since that period there has been considerable manufacture of learned words on Latin models, and many borrowings have been made from Italian, particularly in the sixteenth century, in consequence of much social and military intercourse.   Spanish, English, and other contributions are obvious in the vocabulary.   The pronunciation has been continually cut down and lightened, and analysis, though not carried so far as in English (especially in the verb), is very far advanced.

At the present day French is spoken in all France proper (with the exception of the lower Breton and the Basque country, and of the extreme south-east near the Italian border), in a large part of Belgium, in the Swiss cantons of Neuchâtel, Vaud, Geneva, as well as parts of Berne, Valais, and Fribourg, in part of Canada, in the west of Hayti and in some other West Indian islands (Guadeloupe, Martinique, etc), in the French possessions in Guiana, Senegal, in the islands of Bourbon and Mauritius, in

New Caledonia and a few spots in India (*e g.* Pondicherry). It may be expected to spread further in Algeria, Madagascar, and Tonkin.

F. The Celtic Branch

The Celtic languages have continually lost ground in historical times From being spoken in portions of Central Europe, Northern Italy, the greater part of Gaul, much of Spain, in the British Islands, and in the centre of Asia Minor (Galatia), they have become restricted to some three millions of people in the north-west of Scotland, the west of Ireland, Wales, the Isle of Man, and Lower Brittany. Obsolete are the old language of the Gauls and, since 1770, the dialect of Cornwall

The division of the Celtic tongues till recently in vogue was into two groups (*a*) the GAELIC (*Goidel* or *Gaedhelic*), including **Irish-Gaelic** (or *Irish-Erse*), **Scotch-Gaelic** (or *Scotch-Erse*, also called simply either *Erse* or *Gaelic* in the narrower sense), and **Manx;** (*β*) the CYMRIC, including **Welsh** (or *Cymric* in the narrower sense), **Cornish, Breton** (or *Armorican*), and **Old Gaulish** (or *Gallic*).

Of this list the **Old Gaulish** (*Gallic*) is known only from personal and geographical names, words quoted by ancient authors, coins, and about two dozen inscriptions, most of which have been discovered about the middle of the course of the Saône. A more exact examination of these, though not very fruitful in positive results, leads to a separation of Gallic from either of the two groups given above With it goes the Celtic of the Trocmi, Tectosages and Tolistoboii of Galatia, which was carried thither by an eastward wave of invasion from Gaul in 280 B C Jerome, in the later part of the fourth century A D., remarks that in his day the popular speech of Galatia was similar to that of the Treveri (at Trèves or Trier) in Gaul, a district with which he was intimately acquainted. This observation, combined with one made by Sidonius Apollinaris late in the

fifth century, to the effect that his brother-in-law Ecdicius was to be congratulated on securing the substitution of Latin for Celtic among the Arvernian nobility, shows that Gaulish took several centuries before it was effaced by the Neo-Latin speech.

The later and more satisfactory arrangement of the Celtic languages is therefore —

(a) **Gallic**

(β) **Britannic** $\begin{cases} 1 & \textbf{Cymric (Welsh)} \\ 2 & \textbf{Cornish} \\ 3 & \textbf{Breton (Armorican)} \end{cases}$

(γ) **Gaelic** $\begin{cases} 1 & \textbf{Irish-Gaelic} \\ 2 & \textbf{Scotch-Gaelic} \\ 3 & \textbf{Manx.} \end{cases}$

Of the Britannic languages **Welsh** is the most important, being still spoken by about a million persons, who show much zeal in the conservation and cultivation of the tongue Its earliest fragmentary records are glosses and inscriptions from the eighth century, while from the eleventh to the thirteenth century it possessed a flourishing literature of chronicles, poems, the sententious 'triads,' etc. Of **Cornish** a glossary dates from the twelfth century, and there exists a mystery-play of the fifteenth Its last speaker died in 1770 The position of **Breton** (or **Armorican**) is frequently misunderstood. No doubt the Celtic-speaking people of old Gaul retained its original language most easily in the Armorican corner of the country Nevertheless the Breton, as actually spoken, is another dialect, transported from Cornwall and South Wales by Britons who emigrated under pressure of the Saxons, from the fifth century onwards. Its earliest documents are to be found in monastic registers of the tenth and eleventh centuries. A literature proper appears in the fourteenth. At the present day the language is spoken in the department of Finistère and in the west of two others, Côtes-du-Nord and Morbihan.

Of the Gaelic group **Irish** is the most important. Its earliest traces appear in 'Ogham' inscriptions of the fifth

century A D   In Latin MSS of the eighth century (now preserved at Milan, Turin, Wuizburg, etc) marginal or interlinear glosses have been made by Irish (then called Scotch) monks   The 'Book of Armagh' (ninth century) contains similar notes   From the Middle Ages there comes a copious literature of chronicles, legends, poems, and ecclesiastical works, Ireland having already attained to a ·special reputation for religious learning   Despite sundry patriotic efforts, Irish is declining, but is still spoken by over half a million people in the west and south-west of the island

Scotch-Gaelic (or **Gaelic** simply) is the language of over two hundred thousand inhabitants of the north and north-west of Scotland, with the Hebrides, and is regarded as the furthest corrupted of the Celtic languages.   Its chief documents are the 'Fingal' and some probably authentic 'Ossian' poems, but these were only put together at a comparatively recent date (*circ* A D. 1530).

Manx, which once occupied the Isle of Man, is very nearly extinct

The Celtic languages are marked (like the French, over the phonetic development of which the Gallic necessarily exercised much influence) by the contraction and syncopation of words, and by the usual progressive substitution of prepositional analysis for the flexional noun-declension which had become hopelessly corrupted

G. The Teutonic Branch

In order to spare words, the inter-relations of the **Teutonic** (or **Germanic**) tongues, as ascertained by the most recent research, may be represented most simply in the following synoptic table [1] :—

[1] An asterisk denotes a stage without extant records, but to be postulated.

Primitive Teutonic

*East Teutonic
  Gothic
  (Primitive Scandinavian or Primitive Norse)

*North Teutonic
  *East Norse
    Danish   Swedish
  West Norse
  ('Old Norse')
    Icelandic   Norwegian

South (Upper) German
  (dialects)
  (Alamannic) (Swabian) (Bavarian)
  High German

*Old Frankish
  South Frankish
  North (Lower) Frankish
  Netherlandish
  (Dutch, Flemish)

*West Teutonic

*Old Frisian
  Frisian

*Old Saxon
  Continental Saxon
    Platt-Deutsch
  Anglo-Saxon
    English
  Low German

It is impossible to say how remote in prehistoric times may lie a stage of the Teutonic speeches at which they were homogeneous enough to form a single language (the hypothetical Primitive Teutonic) That they once did so, or at least were sufficiently homogeneous for us to regard them in that light for theoretical purposes, is manifest from the facts that (1) the farther back we investigate the several languages, the nearer they converge to a common type in respect of vocabulary, grammar, and phonetics, (2) this common type is distinguished from all other branches of Indo-European by the phenomenon of 'sound-shifting' (*Lautverschiebung*) discovered by Rask and Grimm, and made familiar under the title of 'Grimm's Law.' All the Teutonic speeches, and these alone, share in this systematic displacement of the explosive consonants

It remains to comment upon the above table in detail.

Gothic (or *Gotic*), as known to us, is the Moesogothic of the Visigoths, when situated south and south-east of the Carpathians. The language of the Ostrogoths of Southern Russia is without records There can, however, have been little difference between the two, since the Bible of Ulfilas, bishop of the Goths in Dacia and Moesia (Roumania and Bulgaria), was in use among the Ostrogoths when they were subsequently in occupation of Italy. The question of Gothic history is not pertinent here, except in so far as the language, like the tradition, points to a close neighbourhood of the Goths with the early Scandinavians, before the former migrated from the Baltic and East Prussian regions somewhere about 200 A D.

Except for one or two unimportant Gothic deeds of the time of Theodoric and a fragment of a calendar, preserved in Italy, practically the sole record of the language consists of the portions of the Bible of Ulfilas extant in the *Codex Argenteus* (a manuscript copied about A D 500), which found its way *viâ* Prague to Upsala These include con-

siderable parts of the four Gospels, fragments of the Pauline Epistles, and also of the books of Ezra and Nehemiah Ulfilas (or, in Gothic, Wulfila) was apparently born in A.D. 311 and died in the year 381, and his Bible is thus, by at least three centuries, the earliest appreciable document for the history of Teutonic.

Gothic, carried by conquest into Italy and Spain, soon disappeared entirely from both countries. It lingered about Kustendje, on the Roumanian coast of the Black Sea, till the ninth century, and then became extinct, except for a dialect of Crimean Goths, which was noticed as late as the sixteenth century, but of which no document remains Gothic supplies us with a Teutonic language at a stage still largely synthetical It still preserves even a dual (at least in the verb and pronoun), has a declension of several cases for noun, pronoun, and adjective, and is rich in those distinct formative elements which have become phonetically much reduced and confounded by the time when we first make acquaintance with Anglo-Saxon or Old High German The light thus thrown upon the morphology of Primitive Teutonic is of the greatest value ; but in point of syntax allowance has to be made for an imitation of Greek idiom, which was induced both by the language of Wulfila's original and also by the influence of the standard tongue of the Church of Constantinople

It is probable, but not provable, that the **Norse** (or **Scandinavian**) languages were carried into the northern peninsula partly in the easterly direction round the Gulfs of Finland and Bothnia and partly in the westerly through Denmark, as well as across the Baltic The existence of any homogeneous primitive Norse cannot be absolutely demonstrated, but there can have been little divergence during the earlier epoch of the Runic inscriptions, some of which are not later than the fifth century A D Up till the Wiking epoch (A.D. 800-1000) the Scandinavian languages may fairly be regarded as one. They share in a number of peculiar phonetic developments, in the suffixed article,

and in such formations as a medio-passive with suffix *-sk*
(= *sik*, Germ *sich*, 'oneself') The language at this period
is the **Old Norse** or *Dansk* (*donsk tunga*) of the Skalds, and
has been best preserved in documents of Iceland, whither
it was carried from Norway at the emigration of the year
874. It is in Iceland also that there have been preserved
the old mythological popular lays (the verse 'Edda'), and
the more artificial panegyric poetry of the Skalds Whether
these compositions ever belonged in anything like the same
measure to the mainland is doubtful. They began to be
collected early in the twelfth century, but naturally represent
a considerably earlier condition of the language, in some
cases probably reaching back three hundred years The
younger prose Edda, or 'Snorra-Edda,' the mythico-
historical and historical saga-literature, dates from early
in the thirteenth century

From about 1000 A D. begins a division of the
Danish-Swedish from the Norwegian-Icelandic branch.
Danish proper possesses no records beyond the law-books
of the end of the thirteenth century, and an orthodox
national speech, founded on the Zeeland dialect, is first met
with in the sixteenth Foreign influences have introduced
many new words into the vocabulary, there has been great
phonetic weakening, and the simplification of flexion has
followed far in the direction in which English has led the
way. Besides being the language of Denmark, Danish is
spoken in North Schleswig and, in consequence of the
former political union, has been much employed (though with
local differences) in the literature and higher society of
Norway, while **Norwegian** retains its independence in the
country and in popular use Swedish, which has maintained
a more archaic Norse character than the Danish (including
a 'pitch' or 'musical' accent), though it exhibits the same
tendency to the unification of its declensions and of its
conjugations, is spoken in Sweden proper, and also along
the Finland coast both of the Gulf of Bothnia and of the
Gulf of Finland (at Helsingfors and elsewhere).

The **West Teutonic** languages would now be naturally divided in the first instance into the **High German** and **Low German** branches, distinguished from each other by a special development on the part of the former in regard to the general Teutonic consonantal sound-shifting (*Lautverschiebung*) described under 'Grimm's Law.' This second sound-change, however, on the part of the Upper (or South) Germans was not accomplished before the seventh century, when the Anglo-Saxons had already been for two hundred years in occupation of Britain   Up till the date of this salient *differentia* it is best to speak of the existence side by side of a number of closely cognate **West German** speeches, the chief of which can be conveniently grouped under the headings **Frankish, Frisian, Saxonic,** and **Upper German.** It is not pretended that each of these divisions was altogether homogeneous in itself, but merely that a close relation subsisted between the (probably numerous) dialects included in each.

(*a*) The **Frankish** stock extended from the Rhine Palatinate and the neighbourhood of the Main as far as the Netherlands, and, in respect of linguistic development, fell in course of time into three sections, viz the *North* (*Netherlandish*), the *Middle* (*Lower Rhenish* or *Middle Frankish*), and the *South* (*Upper Frankish*)   Of these the *Upper* portion came to share in the second sound-shifting of its southern neighbours, and is now part of the High German   The *Middle*, reaching from the Moselle to Dusseldorf, is a dialect which is properly neither High nor Low, but partakes of the characteristics of each.   Farther down the Rhine the *Old Low Frankish* (of which a trace is left in a fragment of a translation of the Psalms from the ninth century) was unaffected by the Upper German influences, and was left to develop itself into the speeches of the Netherlands   The Netherlandish literature begins in the thirteenth century and for a time shows three varieties, the *Dutch*, *Flemish*, and *Brabant*   The first-named, however, prevailed from the sixteenth century,

and at the present day the difference between the speech of Holland and that of Flanders is mostly one of pronunciation only The population of Belgium speaking Flemish numbers about two millions and a half Dutch is the language of mo~t of Holland, of a large proportion of the European inhabitants of South Africa, and is naturally to be met with in the Dutch East Indies and in Guiana.

(β) **Frisian** is not discoverable before the legal records of the thirteenth or fourteenth century It possessed three dialects, the *West Frisian* in Northern Holland, the *East Frisian* between the mouths of the Ems and Weser, and the *North Frisian* northward of the mouth of the Elbe. At the present time Frisian lingers in the north-west of the Dutch province of Friesland, in a few spots in the German Oldenburg from which it has not yet been driven by Platt-Deutsch, and (in a more or less mixed state) on the west coast of Schleswig and in the North Frisian Islands

(γ) The **Old Saxonic** dialects lay to the south of the Frisian and east of the lower and middle Frankish, over an area roughly corresponding to the modern Westphalia, Hanover, and as far as Schleswig-Holstein. Among peoples speaking dialects of this division were the tribes of Saxons, Angles, and Jutes who invaded Britain in different bodies from about the middle of the fifth century A.D and for a hundred years and more thereafter The Saxons settled in Wessex, Sussex, Middlesex, and Essex, the Jutes in Kent and the Isle of Wight, the Angles in East Anglia (Suffolk, Norfolk, and Lincolnshire), Mercia, and East Northumbria, including the eastern half of Southern Scotland

On British soil flourished their various dialects, generally comprehended in the term **Anglo-Saxon** (*i e.* Saxon of England), of which, however, there developed three main divisions, the Northern, Midland, and Southern, otherwise known as the *Northumbrian, Mercian,* and Wessex ' *Anglo-Saxon* ' in the narrower sense. The extant records belong almost wholly to the last, the dialect of Wessex, whereas

modern English is more directly derived from the Anglian of the East Midland (or East Mercian) division, where the capital came to be located, where the chief literature was afterwards produced (as by Chaucer), and where the current speech formed a connecting link between its neighbours on either hand, so that it naturally acquired a wider vogue Since Old Mercian literature, like Old Northumbrian, has preserved hardly any material in its original shape, it is customary to ' derive ' English words from the only Anglo-Saxon which is extant, namely, that of the Wessex documents, into which the Northern compositions also were rewritten after the Danish conquests had driven all Anglo-Saxon culture to the south   But, strictly speaking, this ' derivation ' is for the most part only a process of comparing modern words which are Neo-Mercian, not with their ancestral Mercian, but with words in the Wessex dialect, which was indeed closely akin to Old Mercian but not identical with it.   That the ' derivation ' is not strictly exact may be seen from the following diagram —

```
                       Anglo-Saxon
                            |
    ┌───────────────────────┼───────────────────────┐
    |                       |                        |
  Wessex                 Mercian               Northumbrian
('Anglo-Saxon')             |                        |
as ordinarily quoted     Modern                  Scottish
                         English                  Dialect
```
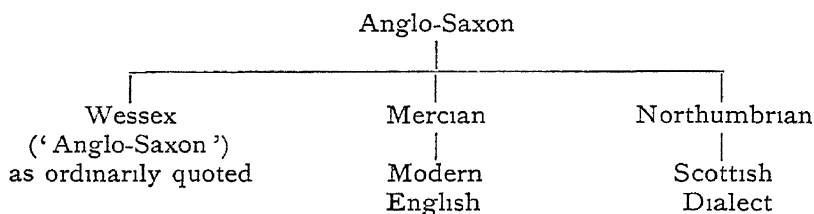
Many words from the Wessex division were doubtless imported into the Mercian both in the pre-literary and also in the literary period of Midland predominance, and many Wessex words would in any case be precisely the same as those of Mercian   Nevertheless there are important differences, particularly of pronunciation, and in these matters it is the Midland speech which has determined the later English

In view of the confusion which results from the use of ' Anglo-Saxon ' thus applied, first to a number of dialects and then especially to one, it is not in idle pedantry that

the title *Englisc* has been proposed for the period preceding that of a recognised English proper, so as to embrace the several dialects in question. The expression 'Old English' is better reserved for another application 'First English' has been suggested with some support

The earlier Celtic-speaking occupants of Britain left little trace upon the language of their conquerors, the few Celtic words now existing in English being mostly of later adoption from Welsh, Irish, or Gaelic-Scotch Of more effect upon the vocabulary were the new elements introduced from Latin through ecclesiastical channels after the Christianising of the country More considerable still were the contributions of words and the modifications of phonetics made by the 'Danes' from the ninth to the eleventh century, their influence being strongest in the north Most important was the effect of the Norman-French conquest of A D 1066, after which French became the language of the Court, Parliament, the higher society, law, literature, education, and largely of business The number of French words introduced was very great, and, though there was no borrowing of French grammar, one result of the conflict of the tongues was that the old English flexion—which had already begun to give way, partly through natural development, partly through the collision of the dialects with one another and of all alike with the speech of the Danes—was rapidly broken down.

English in the proper sense may be dated from about the year 1100, when the flexional terminations of words began a phonetic weakening by which they were doomed. An *Old English* period may for convenience be said to end in A D 1350—by which time the Midland dialect had established itself as English *par excellence*—and a *Middle English* about the year 1460 These dates, however, or any others, are so far from representing clear-cut lines in the history of the language that different divisions and titles are favoured by different philologists *Modern English* may fairly be considered to have begun by the time (*circ.* A.D.

1460) when the adjectival flexion had disappeared, when the noun flexion had reduced itself to one optional form for a possessive case and to a single prevailing form for the plural (in *s*), when the flexion of verbs in respect of persons and moods was almost lost, and when the French words borrowed since the Conquest had taken their place in habitual popular use Since that epoch a large number of Latin words have been added with the ' Revival of Learning,' Greek technical terms and foreign vocables from many sources have been and are being adopted into the vocabulary, much phonetic change has occurred, and many words have greatly shifted their meaning. The consequence of its history is that English is one of the most composite as well as one of the most analytical of tongues Nevertheless the few remnants of its grammar, like the bulk of its everyday vocabulary, are still distinctly Teutonic

The modern English dialects fall into much the same three groups as the Englisc The most pronounced is the ' Northumbrian ' of the Lowlands of Scotland, a region in which the local peculiarities were long encouraged by political separation The dialect still possesses a certain independence, although—despite a revival through the genius of Burns—it no longer enjoys a literary standing The ' broken ' vowels of Anglo-Saxon proper are still heard in Wessex.

The **Old Saxon,** which was meanwhile left to be spoken upon the Continent, is chiefly represented by the *Hêliand* (' Saviour '), a Christian poem preserved in two MSS of the ninth century and composed apparently in Westphalia By the thirteenth century Saxon began to develop a literature (the *Middle Low German*), and books were printed in it till the seventeenth A Bible in Low German is dated 1621. Since that time the High German has become the sole literary language, although the Saxonic dialects, under the name of *Nieder-Deutsch* or *Platt-Deutsch* are still in regular use among the populace of North Germany, not only in the older Saxon districts of Westphalia, Hanover,

and Lower Saxony, but eastward in Brandenburg, Mecklenburg, Pomerania, etc , from which regions they have ousted Slavonic and Lettic speeches

(δ) **High German,** which is now the literary and cultivated language throughout the German empire and in a large part of the Austrian, is the outcome of various dialects spoken in Upper or South Germany. The *Southern Frankish,* which was current in the Palatinate and along the Main, has already been dealt with   Others were the *Alamannic,* the *Swabian,* and the *Bavarian*   All these still survive : the *Alamannic* in Alsace, the South of Baden, and the German-speaking parts of Switzerland , the *Swabian* in Wurtemberg and Western Bavaria ; the *Bavarian* in Bavaria, the German-speaking Tyrol, Salzburg, Austria proper, North Styria, North Carinthia, and various other districts of the Austrian empire These dialects were all affected by the second consonantal ' shifting ' of the seventh century A.D

The history of the established High German is somewhat complicated. It is conventionally divided into three periods : (1) the **Old High German** (eighth to twelfth century), as represented by the earliest texts, such as glossaries, charters, Biblical fragments, epic fragments, and the Strasburg Oaths (A.D 842)   There is properly no common German of the period, the dialects above mentioned being independently recognised , (ii) the **Middle High German,** in which the varieties of vowel in the noun and verb flexion are reduced to a uniform *e,* and an orthodox literary speech is being formed, mostly—as it would appear, though the fact cannot be demonstrated—on the basis of the Swabian dialect as modified by the German Chancellors and in Court circles. To this period belongs the redaction of the popular epic of the *Nibelungen* and a quantity of Minnesinger verse ; (iii) the **Modern High German,** which no longer recognises dialects, nor represents the natural development of any special dialect, but is in its origin a more or less eclectic language, intended to secure currency everywhere among the varying speeches of Germany.   This object it has in a large

measure attained.　Great assistance was lent to the spread of this form of German by Luther's translation of the Bible The notion that Luther created the language itself is as erroneous as the fancy that Chaucer created English or Dante Italian　He expressly states that his translation is in no precise dialect of German, but is the speech of the " Saxon Chancery," a conventional form " for all the princes and kings in Germany."

Some Low German words have been borrowed into High German ; loan-words from the Roman civilisation are frequent in a phonetically adapted form , French also has exercised a certain effect on the vocabulary　For the most part, however, despite Romance influences, High German has preserved a strictly Teutonic character and material. Its grammatical flexion still remains more elaborate than in Low German, than in English most of all.　Its word-order exhibits a more archaic character, rendered possible only by the existence of its flexional terminations.　Its phonetics exhibit less decay.　It may be added that High German is particularly marked by a liking for the combination of whole words or word-stems into compounds, often of unwieldy length

H. The Baltic-Slavic (or Slavo-Lithuanian) Branch

(a) The Slavonic languages

Eastward of the East Teutons in the earliest historical times are to be found the *Veneti* or *Venedae* (Wends). Without pretending to any very precise determination of the ethnological and linguistic application of the term on each occasion of its use in early writers, we may take it as representing approximately the contemporary communities of Slavs　The westward and southward migrations of the Teutonic peoples—the Goths, Vandals, Burgundians and others—made room for an inroad by the Wends into the country thus left comparatively empty.　When the movement had once begun, it was carried on so vigorously on

the part of the Slavic peoples that by the fifth century they were in possession of Moravia, Bohemia, and of Germany as far as the Elbe and Saale In the sixth they overran Moesia, Thrace, Macedonia and Greece as far as the Peloponnese Of these regions Moesia (Bulgaria) was made completely Slavic. From Moravia Slavs advanced in the same century into Pannonia (Austria, Styria, Carinthia, etc.) under the name of 'Slovaks.' In the seventh century the 'Croats' and 'Serbs' crossed the Danube from the Carpathians and occupied the Dalmatian parts of Illyricum, the modern Servia, Croatia, Bosnia and neighbourhood.

It thus happens that in the eighth and ninth centuries Slavonic speeches occupied Pomerania, Mecklenburg, Brandenburg, Saxony, and the greater part of Austria, as well as the territories—Russia, Poland, Galicia, Bohemia, Moravia, S. Carinthia, S. Styria, Carniola, Slavonia, Croatia, Bosnia, Herzegovina, Montenegro, Servia, Bulgaria—which they still hold. The cities of Berlin and Vienna both stand where Slavonic was then spoken, and their present position and environment afford conspicuous testimony to the fact that for several centuries German has been steadily pressing back and eating into the frontiers of both the Slavic and Lithuanian tongues

A statement of the exact inter-relations of the Slavonic languages is not yet agreed upon. The oldest recorded forms are those of the **Old Bulgarian** (or **Church Slavonic**), a language in which were written the translation of the Bible and sundry liturgical pieces by Cyril and Methodius, who were "Apostles to the Slavs" in the middle of the ninth century The tongue employed by these missionaries would naturally be that which was most typical for their Slavic disciples in Moravia and subsequently in Bulgaria. Cyril died in A D. ·868, and a hundred years later a copy from his MSS., containing the Gospels and Epistles for the Sundays after Easter ('Ostromir Gospels'), was made for Russian use This again was transcribed in 1056, with certain Russian

elements introduced, and it is from the latter MS. that our
knowledge of an old typical Slavonic is mainly derived.
The title 'Church Slavonic' is applied to the language from
its use in the church service, that of 'Old Bulgarian' is
misleading, inasmuch as the language was spoken much
more widely than in Bulgaria, especially to the West.
Modern Bulgarian, thanks to much collision with other
languages, is the farthest removed of all the Slavonic
speeches from the stage represented in Church Slavonic   It
has, for instance, lost almost all the declension-flexion and
many forms of the verb, suffixes the article (like its non-
Slavic neighbours, Roumanian and Albanian), and possesses
a vocabulary greatly mixed with Greek, Turkish, Roumanian
and Albanian elements

   The classification of the Slavonic tongues which appears
to find most favour with students in that branch is as
follows —

(1) *East and South Group*
- a **Russian** { Great Russian / White Russian
- b. Little Russian
- c Bulgarian
- d **Illyrian** { Servo-Croatian / Slovenian

(ii) *West Group*
- e **Tzech** { Tzech proper / Slovakian
- f. **Sorbian** (or Sorabian)
- g. **Lechish** { Polish / Polabish (Elbe-Slavonic)

   It will suffice to make a note upon each of these in
order

   1 (*a*) **Great Russian** (or **Russian** proper) is a language
which received no authoritative formulation till the beginning
of the eighteenth century, though it possesses records from
as far back as the eleventh.   Although on the way to
analysis, it still possesses a declension of seven cases, and
also a liberal amount of verb-flexion.   Great Russian is
spoken by perhaps sixty millions of persons in Central
Russia and is met with in its purest form in the neighbour-

hood of Moscow. *White Russian* is a dialect of some three millions in Western Russia to the east of Lithuania and Poland, chiefly in Vitebsk, Mohilev, and Minsk

(*b*) **Little Russian** (or **Ruthenian,** a name particularly applied to the language as spoken in Galicia) is spoken in the southern parts of Russia (including, and south of, the provinces of Volhynia, Kiev, and Kharkov) as well as in the Austrian province of Galicia.

(*c*) **Bulgarian** has already been touched upon. Beyond Bulgaria proper it is spoken in parts of European Turkey, in the places where Albanian, Greek, Vlach or Turkish are not used

(*d*) **Servo-Croatian,** of which there are many, but not widely divergent, dialects, is the speech used in Servia and South Hungary (Zombor), Slavonia, Croatia, Bosnia, Herzegovina and Montenegro, as well as in Dalmatia and Istria (except for the parts, mostly on the coast, where Italian is spoken) It possesses records from the twelfth century and is philologically of much importance. **Slovenian** is the language of Carniola, South Carinthia, and South Styria. It possesses linguistic records as early as the tenth century

11 (*e*) **Tzech,** which was distinguished by a flourishing literature down to the time of the Hussite wars of the fifteenth century, is the language of Bohemia (except on its western and northern margins) and Moravia Its earliest traces are to be found in the ninth century, although it is not till the thirteenth that any important document is forthcoming. The revival of the Tzech language and literature belongs to the last hundred years. **Slovakian** may be regarded as a dialect of Tzech, and is the tongue of about two millions of the population of Northern Hungary, south of the Moravian and Galician borders, between Pressburg and the Carpathians.

(*f*) **Sorbian** (*Sorabian* or *Wendic*), closely allied to the Tzech, is gradually becoming extinct It is still spoken by perhaps 100,000 German subjects in Prussia and Saxony

along the course of the river Spree.   Its earliest document
is a prayer-book of 1512

(*g*) **Polish** is the tongue of a population of ten millions,
divided between Russia, Austria (West Galicia), and Germany
(Posen and parts of Silesia).   From Germany it is being
ousted by the national language.   The earliest document of
Polish is a translation of the Psalms of the year 1290.
Polabish, once spoken by Slavs on the lower Elbe, is now
extinct.

(*β*)   The **Baltic** (sometimes called **Lettic**) languages.

Three languages, the **Old Prussian** (extinct since the
seventeenth century), **Lithuanian,** and **Lettish,** form a
special Baltic division of the larger Slavo-Lettic branch
Old Prussian was once in use along the Baltic coast between
the Vistula and the Niemen   A German-Prussian glossary
of the early fifteenth century and three catechisms of the
sixteenth, represent practically all that is known of this
tongue   **Lithuanian** is spoken by perhaps 150,000 persons
in the extreme north-east of Prussia (about Tilsit and the
river Niemen), and by a million and a quarter in the adjoin-
ing Russian provinces of Kovno and Vilna   In its forms it
is the most archaic of the living Indo-European speeches,
and is therefore of special importance to the philologist
Its documents, unfortunately, go back no further than the
sixteenth century, and the only important specimen of
Lithuanian literature is the poem of the ‘Seasons,’ by
Donaleitis, dating from the middle of the eighteenth.
Lettish, which has corrupted its forms more than Lithuanian,
is the language of about a million people in Courland, South
Livonia (about Riga), and along the lower Dvina

SYNOPTICAL SCHEME OF THE INDO-EUROPEAN LANGUAGES

The following synoptical scheme of the Indo-European tongues may be of use for convenient reference
Italics imply that the groups so marked are hypothetical steps in the pedigree, warranted by induction
An asterisk only is prefixed to dead languages, while an asterisk combined with an obelisk signifies that, if the
speech in question can be regarded as still alive, it is only as one artificially cultivated for literary or liturgical
purposes   An obelisk alone indicates that the speech is now regarded as merely a dialect of the recognised
national language

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ARYAN¹ ─┬─ INDIA ──*Vedic Sanskrit ──┬─*†Classical Sanskrit
        │                            └─*Prâkrits (*†Pali, etc ──┬─ Assami, Bengâli, Uriya
        │                                                       │  Hindi, Hindustani
        │                                                       │  Marâthi, Gujarâti, Punjâbi.
        │                                                       │  Kashmiri, Nepâli
        │                                                       │  Gipsy (Romany)
        │                                                       └─ Pushtu
        │
        └─ ERANIAN ─┬─*Old Bactrian (Zend)
                    │        ──────── ─*Pehlevi (Huzvâresh)
                    │                 ─*†Parsi (Pâzend)
                    │                                      ┌─ Modern Persian
                    │        ──────────────────────────────┤  Ossetian
                    │                                      │  Kurdic.
                    └─*Old Persian ────────────────────────┴─ Belûchi

ARMENIAN ──*†Old Armenian ────────────────────────────── Modern Armenian.

HELLENIC ─┬─*Doric
          ├─*Aeolic
          ├─*Iono-Attic ──*The Koinê ─┬─*Byzantine─(Romaic)─Modern Greek
          └─*N W Greek                └─*Alexandrian─*Hellenistic

ILLYRIAN ─┬─ Northern
          └─ Southern ── Albanian
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          ┌─ ITALIC ─┬─ Umbro-Samnitic ─┬─*Oscan
          │          │                  ├─*Umbrian
          │          │                  └─*Volscian, *Marsian, etc
          │          └─*Old Latin ──┬─*†Classical Latin
          │                         └─*Popular Latin ────┐
          │
         ─┤                              Italian ┬─†Sicilian
          │                              dialects─┼─Tuscan─Italian.
          │                                       └─†Northern
          │                              ─*Langue d'oc──†Provençal.
          │                              ─†Catalonian
          │                              ─Spanish dialects─Spanish
          │                                                  (Castilian).
          │                              ─Portuguese
          │                              ─Langue d'oil dialects─French
          │                              ─Rhaeto-romanic
          │                              ─Roumanian
          │
          └─ CELTIC ─┬─*Gallic
                     ├─ Britannic ───────────────── ┬─ Welsh (Cymric).
                     │                              ├─ Breton
                     │                              └─*Cornish
                     └─ Gaelic ──────────────────── ┬─ Irish
                                                    ├─ Manx
                                                    └─ Scotch-Gaelic
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TEUTONIC ─┬─ East Teutonic ─┬─*Gothic
          │                 └─ Norse ─┬─ East Norse ──┬─ Swedish
          │                          │                └─ Danish
          │                          └─ West Norse ──┬─ Icelandic
          │                                          └─ Norwegian
          │                                                              ┐
          │              ┌─ Old Frisian ───────────────── Frisian        │
          │              │                                               │
          └─ West Teutonic ┤─ Old Saxon ─┬─*Anglo-Saxon-(Mercian)-English │
                         │             │   dialects                      ├ Low German.
                         │             └─*Continental Saxon──†Platt-Deutsch│
                         ├─ Old Frankish ─┬─ Netherlandish ──┬─ Dutch     │
                         │               └─†Upper Frankish   └─ Flemish   ┘
                         └─†South German dialects ──────────── German
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SLAVO-LITHUANIAN─┬─ Slavonic ─┬─ S & E ─┬─*†Church Slavonic
(BALTIC-SLAVIC)  │            │  Slavonic│                  ┌─ Russian
                 │            │          │                  ├─†White Russian
                 │            │          │                  ├─ Ruthenian
                 │            │          │                  │   (Little Russian)
                 │            │          │                  ├─ Bulgarian
                 │            │          │                  ├─ Servo-Croatian
                 │            │          │                  └─ Slovenian
                 │            │          │
                 │            └─ W Slavonic ──────────────── ┬─ Tzech
                 │                                           ├─ Slovakian
                 │                                           ├─ Sorbian
                 │                                           ├─ Polish
                 │                                           └─*Polabish
                 │
                 └─ Baltic ─────────────── ┬─*Old Prussian
                                           ├─ Lettic
                                           └─ Lithuanian
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¹ There are also various dialects of the Pamir region not here enumerated

CHAPTER X

RACE AND LANGUAGE
(WITH SPECIAL APPLICATION TO THE INDO-EUROPEAN TONGUES)

(1) *In General*

THE foregoing classification of languages into their families, branches, groups, and sub-groups, as hitherto ascertained, has been accompanied by a more or less detailed statement of the localities in which they are or have been spoken respectively. It should, therefore, already have become apparent that we cannot regard kinship of language as any necessary criterion of kinship of race   In other words, peoples which now speak languages genealogically alien to each other may be, in no inconsiderable measure, ethnologically akin, while peoples which now speak cognate or even identical tongues may be descended from very distinct races. If such lax expressions as 'the Indo-European peoples,' 'the Aryan race,' 'the Latin race,' 'the Celtic peoples,' do not come of a confusion of thinking, they undoubtedly lead to such a confusion   On the one hand, they confound ethnology, and on the other, they prevent the student of philology from readily apprehending one of the chief causes of local variation in speech.

It must be evident from what has been said of the spread of a given tongue and the decline of all others within a certain area, that the prevalence of a language within that area is principally due to political and social relations.

Experience shows that the political and social organisation called a nation, if it retains the same geographical borders for a period sufficiently long, will develop a common national speech   This will ultimately exterminate any others, cognate or alien, which happen to be in existence within the political union.   If, as is often the case, the supposed area is occupied by a population composed of two or more distinct races, which have been brought into close national association by conquest or other circumstances, one or other of these stocks will find its own language decline and finally disappear in the course of generations.   Nor will it be absolutely necessary for this result that the races themselves should become blended in any large degree.   The racial types may remain tolerably distinct while the language grows homogeneous.   Generally, no doubt, when there is no pronounced bar of colour or religion—and sometimes even then— a considerable amount of racial intermixture does take place, but very frequently certain districts of such a country will continue to show almost pure types of one race or the other, whereas the language which originally belonged to that type has become entirely obsolete   The language which prevails is regularly that of the element which proves superior in social power or culture , it need not be that of the more numerous   Mixture of the speeches themselves seldom extends beyond the borrowing of certain vocables and some modification of phonetics.

Among the more extreme and obvious instances of a race losing its own speech in favour of one belonging to an ethnologically unrelated stock is that of the Jews, who, while for the most part maintaining a scrupulous purity of descent, generally recognise as their mother-tongue the language of the country in which they happen to be born and domiciled.   The Negroes of the United States speak English , those of Hayti French.   Spanish is spoken by large numbers of persons of American-Indian or very mixed extraction in Central and South America   The Melanesians are of a race unmistakably distinct from that of the Polynesians or

of the Malays, whereas their languages belong as unmistak-
ably to the Malayo-Polynesian family   A Slavonic speech is
steadily replacing the Ural-Altaic tongues of the Mongoloid
peoples in Russia.   The Arabic of the Semites continually
penetrates into Africa among the Ethiopic and Negro popu-
lations.   The Sanskritic branch of Indo-European imposed
itself on the Dravidian inhabitants of the larger part of India
In the peninsula of Italy the Indo-European Latin became
the language of the alien Ligurian, Etruscan, and ' Iberian '
stocks.   Except for a remnant in the shape of Basque, the
speeches of the old Iberian race in Spain have similarly
disappeared in favour of Latin, whereas the race itself still
flourishes   The non-Indo-European languages of the swart
brachycephalic occupants of Alpine and middle Europe have
given place, first to Celtic, then to Latin or Teutonic, but
the swart and short-skulled people spread through those
regions to this day.

Instances in which one language has been replaced by
another genealogically related to it are sufficiently familiar.
Thus Latin ousted Celtic from Gaul, and Greek from
Southern Italy and Sicily.   A Teutonic speech is continu-
ally narrowing the range of Celtic in the British Islands, and
in some quarters, as for instance in Cornwall, it has already
completed the displacement.   In the eastern parts of the
German empire one Slavonic language (Polabish) has been
entirely dispossessed by German, and others (*e g.* Sorbian)
are doomed.   Among the Semitic tongues Arabic is now
spoken by peoples whose ancestors spoke Aramaic, Chaldaic,
etc   In these cases the language which supplants is, indeed,
cognate to the language supplanted   But it by no means
follows that the speakers of the supplanting tongue are
themselves, at the time of supplanting, correspondingly
related by race to the speakers of the other.[1]   The Celtae
of Central France, who spoke the Celtic which was replaced

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[1] It may be remarked that at no historical date has there been a pure ' Semitic
race ' co-extensive with the Semitic family of languages   The Arabian and
Assyrian racial types always diverged widely

by the kindred Latin, were mainly of a stock which had originally little in common with the speakers of the latter tongue   Latin was closely akin to Celtic, but not therefore the Celtae to the 'Latins'   The Celtic of the British Islands is now the tongue of the short dark Silurian so-called 'Celt,' of the tall rufous Belgic Gaul,[1] also dubbed a 'Celt,' and of a blend of the two.   The English language which is supplanting the Celtic was therefore brought by a race only partially akin.

It requires little knowledge of history to bring home the composite character of almost every nation which possesses a national speech.   The modern French in France is the tongue of the descendants of Belgic Gauls (Belgae), Rhaeto - Celts (Celtae), Iberians (Aquitani), a layer of Italians (so-called Romans), with a certain Teutonic admixture from Franks, Burgundians, and Scandinavians (Normans)   The area of Italian is occupied by descendants of Rhaetians, Ligurians, Gauls, Etruscans, Greeks, and 'Iberian' Sicanians, as well as by those of the mixed Latin, Umbrian, and Oscan tribes who were the original speakers of the Italic variety of Indo-European   We must further add a tincture of Gothic, Lombardic, and other Teutonic blood, and also of Spanish.   The meaninglessness of the expression 'the Latin race,' as applied generally to speakers of the Romance languages, needs no further demonstration. Nor is the term 'Anglo-Saxon,' as applied to the population of Great Britain or the United States, anything but a convenience   The language indeed is English Saxonic, but those who speak it in Great Britain are racially the result of greater or less blending of Ibero-Silurians, Belgic Gauls, possibly some Roman strain, various tribes of Angles, Saxons, Jutes, and Scandinavians, and the Norman French   The Teutonic racial element by no means preponderates in every part in which the language is now habitually employed.   The English of the United States is the tongue of a population still more mixed

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[1] The related Goidels and Brythons are here considered as but two waves of practically the same stock.

Facts such as these, which are discoverable within the period of history, or which are placed sufficiently beyond doubt by the combined conclusions of ethnologists, historians, and philologists, must be few compared with those which are shrouded in the obscurity of prehistoric ages, or in the comparatively recent, but quite recordless, past of barbarian peoples   If history were entirely silent on the subject, the position of the Hungarian tongue in Europe would be a riddle.   Nor could it ever be guessed that a wave of Gauls had once passed into the centre of Asia Minor and deposited there an island of language (Galatian) akin to those now spoken on the extreme verge of North-Western Europe   That island of language, after an existence of several centuries, entirely disappeared, and the descendants of its speakers, so far as they exist, are part of an exceedingly mixed population whose 'national' language is Turkish.   No one, again, would imagine the conquests, migrations, and colonisings of Phoenicians, Macedonian Greeks, Gauls, Romans, Goths, Slavs, Huns, Saracens, Turks, Mongols, Spaniards, or English Who then can say (to use an expression of Whitney) what " encroachments, superpositions, mixtures, displacements, and destructions " may have occurred among both races and languages in times and places upon which history throws no light ?

While, therefore, it is true that a race left to itself will naturally speak a tongue developed directly from that of its ancestors, and that two peoples of the same race will, under these conditions, speak cognate dialects, nevertheless, inasmuch as a language can be altogether displaced through circumstances such as those above illustrated, it is clear that (1) only when physical as well as linguistic similarities are forthcoming can we attach much weight to the argument of language in support of a theory of community of race , (2) when the physical resemblances between two peoples are very pronounced, a lack of kinship in their languages is no very strong argument for their racial separation   The linguistic test is therefore rated by the student of the science of

language at a value much lower than that which appears to be often put upon it by the ethnologist

Not only does historical experience prove that peoples may be forced to change their language   There is, further-more, no contravention of nature in the process.   It is an obvious remark that language is not a physical attribute, but a social acquirement   The colour of the skin, the shape of the skull, the proportions of stature, and the nature of the hair, are normally matters of inheritance, and are determined before birth.   On the other hand, the language which the child is to speak will depend on its associations and en-vironment—that is to say, on the sounds habitually used for the expression of ideas by those from whom it learns to speak.   An English child born and bred in France may speak French as perfectly as the child of native parents. And not only will this occur where the two languages are akin, but the case would be the same with Chinese, Japanese, or Tamil   It may be difficult, if not impossible, for an adult, already habituated to the expression of his ideas by means of certain sounds and certain grammatical methods only, to acquire a perfect control of novel methods and novel sounds , and such a person might possibly conceive that he was racially incapacitated for some particular process of phrase-building or of articulation   But there is no adequate evidence that a child, when first learning to speak, will experience any difficulty either in the articulation of a language alien to its ancestors or in the expression of thought by its means Psychologically the child of alien race appears to labour under no disadvantage   Physically, indeed, it is possible that there may sometimes—as with negroes speaking English —exist a certain difference of *timbre*, due to some congenital character of the vocal organs ; but, for the rest, such idiosyncrasies as distinguish the English of the North American negroes from that of the whites are mostly of the ordinary nature of dialect, and are due to the more intimate association of the negroes with one another, and to their

consequent propagation of peculiarities of 'broken' English as spoken by the early slaves. For the most part, however, idiosyncrasies are non-existent when the child of one stock is brought up entirely, and from the first, in the language of another. As regards the psychological element in the case it is well to observe (1) that *different* races adopt *similar* structural devices (the principle of agglutination, for example, belongs to Magyars as it does to Australian aborigines); (2) that the same language, at different stages, employs *dissimilar* devices (as in the instance of analytical English compared with the synthetic Old Teutonic), (3) that in all probability the same (or at least analogous) structural devices lie at the bases of all languages alike.

It is, of course, possible that, if we could get back to a period of unmixed typical races, we might find the language of each to be more peculiar to itself. Each such language might possess some distinctive feature or tendency. In other words, there might be one strongly marked tongue to one strongly marked race. As things actually are, however, while the totally distinct families of languages are far more numerous than the races, and while nearly a hundred groups of tongues may be discovered which exhibit no genealogical connection whatever, these tongues display the most complicated resemblances and divergences in respect both of sounds and morphology, and in no way admit of such classification as to make them correspond with any arrangement by races. Nor does it seem very profitable to speculate whether, on the one hand, many of these apparently unrelated speeches may have gradually diverged from each other to such a degree as to retain no recognisable traces of a connection which once existed, or whether, on the other, they may be but survivals out of a number much larger still. Whatever may be the truth in this respect, we cannot fit the classifications of language, either genealogical or morphological, to any of the racial classifications into which various ethnologists divide mankind

This is not the place for a discussion of the soundest

ethnological system   But whether we adopt Peschel's distri-
bution into seven classes, viz (1) Australians, (2) Papuans
(with the Negritoes, Melanesians, etc.), (3) Mongoloids (with
Malays, Polynesians, and American Indians), (4) Dravidas,
(5) Hottentots and Bushmen, (6) Negroes, (7) Mediterranean
peoples (Indo-Europeans, Semites, and Hamites), or Flower's
distribution into three classes (Black, Yellow, White), it will
remain impossible to discover any principle according to
which the languages of the peoples concerned can be simi-
larly divided.   Simply by way of illustration we may take
(with a slight modification) an arrangement by Huxley,
which combines Haeckel's classification according to the hair
with a familiar distribution according to the 'index' of the
skull,[1] and these with yet another according to the colour of
the hair and skin —

> (*a*) **Leiotrichi** (smooth-haired [2])—
>
> > I *Leucous* (*i e.* blond) *dolichocephalic* (*i e* long-
> > headed)—the Xanthochroi.
> >
> > II *Leucomelanous* (*i e* with dark hair and white
> > skins)—the Melanochroi.
> > > (*a*) *dolichocephalic*—the Iberians, Semites, and
> > > Berbers.
> > > (*b*) *brachycephalic*—central Europeans (Rhae-
> > > tians)
> >
> > III *Xanthomelanous* (*i e.* with black hair and yellow
> > skins)
> > > (*a*) *dolicho-* (to *meso-*) *cephalic*—the Eskimo,
> > > Amphinesians (*i e* Polynesians, Indo-
> > > Nesians, etc.), American Indians.
> > > (*b*) *brachycephalic*—the Mongoloids.
> >
> > IV. *Melanous* (*i e* black) *dolichocephalic*—the Aus-
> > tralians, Dravidians

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[1] The most approved denominations, according to the proportion of the
extreme width of skulls to their extreme length, are—'dolichocephalic,' when
width · length   75 (or under)   100 ; 'mesocephalic,' when the 'index' is between
75 and 80 ; 'brachycephalic,' when the width is over 80 per cent of the length.

[2] This hair in section is cylindrical, while the woolly hair is flat.

(β) **Ulotrichi** (woolly-haired)—

    I *Xanthomelanous dolichocephalic*—the Hottentots and Bushmen

    II. *Melanous dolichocephalic*—the Negroes, Negritoes, Papuans.

Linguistically there is no special speech-type attaching to 'xanthomelanous brachycephalic Mongoloids' In their method of structure, in phonetics, and in vocabulary, the Chinese are as widely sundered from the Tartars or Japanese as from the Hindus or the Teutons Their monosyllabic, intoned, positional language may or may not, at some exceedingly remote period, have borne a closer resemblance to the tongues of other Mongoloids, whose speeches are now agglutinating. Philology, however, cannot prove the point. Similarly the philologist can establish no community of type between the polysynthetic speeches of the American Indians and the partly agglutinating, partly analytical, tongues of ‚the Amphinesians If, with Huxley, we class the ' leucomelanous dolichocephalic' Iberians with the ' leucomelanous dolichocephalic' Semites, it is nevertheless a fact that the Basque language remains as remote from Arabic in structure, phonetics, and root-material as it is from American Indian or Bantu If, with other ethnologists, we class the ' Semites ' with the ' Europeans' as ' Mediterranean ' peoples, we get no nearer to a common type of speech. The *differentia* which divides Semitic structure from Indo-European is at least as palpable as that which divides either from Ural-Altaic. The difference of their phonetics is not less great, and the stocks of root-material are entirely distinct The principle of agglutination is to be found equally among woolly-haired long-skulled blacks or smooth-haired short-skulled yellow men. The development of analysis has occurred among ' xanthomelanous ' Polynesians as among the ' leucous ' English The tendency to a purely positional grammar is both English and Chinese Reduplication belongs to the Xanthochroi as to the Red Indian. Similarly the pro-

nunciation of *s* as *h* appears in Greece, in Persia, and in New Zealand , the confusion of *p* with *b*, or of *t* with *d*, belongs to Polynesia as to ancient Germany. Nor would it be difficult to illustrate much moie amply the facts that (1) peoples racially unlike may possess or develop like modes of structure and phonesis, (2) peoples racially like may possess or develop unlike modes of structure and phonesis.

To sum up Given that frequent and complicated migrations of whole peoples or of conquering bodies have taken place in all parts of the world both during and prior to historical times , that the language of one people has often been imposed upon another, with sometimes complete, sometimes considerable, and sometimes but little, racial blending of the peoples themselves ; and that no type of man possesses a congenitally necessary or indefeasible type of language,—it becomes manifest that language must be treated with more confidence as one of the data for history than as one of the data for ethnology. Community of language necessarily implies close and continued social relations at some period or other It need not imply more

The application to the Indo-European tongues and the diffusion of these from *Europe* (with a discussion of the cradle of the race) forms a longer and separate chapter.

(ii) *The Speakers of Indo-European in Europe*

Inasmuch as the error involved in the expression 'the Indo-European peoples' or 'the Aryan peoples,' as applied to the bulk of the modern Europeans, is very common, and has been encouraged by a laxity on the part of philologists, it is perhaps worth while to examine in some detail the relations of race and language in Europe. The examination, moreover, will serve to illustrate one of the chief reasons why a once homogeneous language becomes diversified as it spreads further afield.

At the present day Indo-European languages are spoken in every part of Europe except the regions occupied by Basque and by the Finno-Ugric and Turko-Tataric branches of the Ural-Altaic family.   The arrival of the Turks and of the Magyars, and therewith of their languages, in the territories now occupied by them, is a matter of history.   The Finnic tongues of Russia are rightly understood to be spoken normally by detachments of the Mongoloid stocks of Eastern Europe.   Basque is naturally regarded as the language of a remnant of the Iberian or Euskarian race which once occupied the west   In these cases the difference of race is brought home to the student more distinctly by the difference of language   Otherwise it is commonly assumed, or at least writers express themselves as if it were assumed, that the populations of Italy, Great Britain, Germany, etc, belong equally to an Indo-European or Aryan 'race.'   The fallacy at once becomes obvious if we imagine a time when the Basque, Magyar, Turkish, and Finnic idioms shall have become obsolete   In the case of Basque and some of the Finnish speeches that contingency is anything but remote In the supposed case will the Basques, Magyars, or Finno-Ugrians become ethnologically any the more 'Aryan' or 'Indo-European' because their language has been supplanted?

What is obvious in this example is, after all, but very slightly obscured in the case of the population of Europe at large   The Indo-European languages now occupy ground which was formerly divided between several alien tongues spoken by various ethnological stocks   The Rhaetian, Ligurian, and Etruscan languages have wholly disappeared, the Iberian almost.   But the peoples did not disappear with their languages, and, whether mixed or not, they must still form a large, and sometimes the largest, element in the population of the regions which belonged to their ancestors This fact is sufficient to account for the greater or smaller degrees of physical unlikeness existing between the Italians, Spaniards, Teutons, Celts, Slavs, etc., who agree in the

possession of Indo-European tongues   A homogeneous race did not come into occupation of an empty Europe and then, thanks to settling north or south, develop a prevailing tall blond type and a prevailing short brunet type in those quarters respectively   Such metamorphoses appear to be a physical impossibility.   The obvious truth is that, though the cognate Indo-European tongues necessarily imply that a fairly homogeneous Indo-European language must have been spoken somewhere by some considerable number of persons from whom it was diffused, nevertheless, as now spoken, these tongues are the languages of a number of heterogeneous peoples linked together in complicated ways, but in some cases probably sharing little in the blood (whatever it may have been) of those from whom the said common language was so distributed

The conclusions of ethnologists (Broca, Huxley, Isaac Taylor, etc), based partly upon the examination of large numbers of prehistoric skulls and skeletons exhumed from various regions of Europe, and partly upon the prevalence of corresponding types over much the same areas at the present day, are in sufficient agreement to permit of a tolerably confident summary.

At a primitive (apparently neolithic) period Europe was occupied by at least four distinguishable racial types   These were no doubt mixed in various proportions on their respective borders, but, speaking generally, they were situated and characterised as follows —

A.—A **short dark dolichocephalic** stock, averaging 5 ft 4 in in height, and with an index of 72. These inhabited the west of the British Islands, the west of France, most of Spain, and also of Southern Italy, with Sicily, Sardinia, and Corsica. Among the various names assigned to them ‘ Iberians ’ is perhaps most in vogue.   Others are ‘ Euskarian,’ ‘ Silurian,’ ‘ Basque.’

B —A **short dark brachycephalic** stock, averaging 5 ft. 3 in. in height, and with an index of 84, occupying

Central France, Northern Italy, and the central highlands of Europe, and variously denominated 'Auvergnat,' 'Savoyard,' 'Rhaetian,' and 'Rhaeto-Ligurian'

C.—A **short dark brachycephalic** stock, with **Mongoloid** characteristics distinguishing them from **B**, and inhabiting the E and N E. of Europe as well as Central Asia

D —A **tall light dolichocephalic** stock, averaging 5 ft 9 in in height, and with an index of 72 In their purest form these occur in Scandinavia, North Germany, and in parts of the British Isles The name 'Xanthochroi' ('blond-complexioned') has been suggested by Huxley

The natural result of greater or less blending along the racial frontiers, and often, thanks to migrations and inroads, deeper into a given racial area, is that we may meet with tall light people who are brachycephalic (as among the Slavs, and frequently among the tall rufous 'Celts' of Ireland), or with light dolichocephalic people who are short, or with dark dolichocephalic people who are tall, and so forth. That, in so far as groups of individuals deviate from one stock or another, they are the result of a mixture of the stocks, is a necessary conclusion For the most part the Slavs apparently afford an instance of a blending of types **D** and **C.** The Belgic 'Celts' of Britain, who are 'moderately brachycephalic' (Taylor), while in other respects they belong to type **D,** are probably the outcome of **D** somewhat crossed with **B.** The Spaniards are apparently mainly of type **A,** with a comparatively small proportion of type **D.** It is needless to pursue the matter further, inasmuch as enough has been said to make clear how little identity of race exists among the peoples whose present languages are of common origin.

To which stock the primitive Indo-European language belonged is a question which, while not absolutely settled by the data, admits of no reasonable doubt. Stock **C,** where it

is purest, employs the Ural-Altaic speeches Stock **A** (at least in Spain and S W. France) has adopted an Indo-European speech within historical times, and, so far as traces of the old Iberian exist, they agree with the surviving Basque in exhibiting an entirely alien tongue, the Euskarian. At the original language or languages of stock **B,** however, we can only guess ; but such indications as are forthcoming point to non-Indo-European idioms displaced at an early date by Celtic. In the case of stock **D,** however, there is no vestige of any other languages than Indo-European having ever been spoken by the peoples who best represent it. Moreover, all tradition and historical evidence connected with the characteristics of the Greeks, Thracians, Aryans, etc., who migrated into the quarters severally occupied by them, point to the languages having been carried by tribes who were conspicuously of type **D.** Probably, therefore, no philologist or ethnologist feels any hesitation whatever in placing among a tall blond dolichocephalic stock the source from which the Indo-European languages were diffused.

(iii) *Celts and Celtic*

Perhaps greater confusion exists nowhere than in the application of the term 'Celt,' and it is certain that the confusion is largely, though not solely, due to false impressions derived from language In Cæsar's day Gaul was tenanted by three races, the *Aquitani* of the south-west (who represent the Iberian or Euskarian stock **A**), the *Celtae* (or *Galli*) of the centre and the Savoy hills (who belong to the ' Auvergnat' type, called **B** in the classification given above), and the *Belgae* of the north-east (who are of type **D**). The ethnological distinction is in itself sound and clear. It happens, however, that by the Roman time the *Celtae* and the *Belgae*, though different in race, spoke varieties of the same language, which had apparently been imposed upon the Celtae (of stock **B**) by the kindred of the Belgae (of stock **D**) while sweeping over Central Europe This language, being

first recognised among the Celtae as the Romans advanced northward, was naturally called 'Celtic' The fact that it was likewise spoken by the Belgic Gauls led to the latter also being denominated (though not by Cæsar) 'Celts'

Furthermore, congeners of the Belgic Gauls occupied from an early period the south and east of Great Britain, whence they spread continually westward, imposing their language meanwhile upon the earlier Siluro-Iberian inhabitants of stock **A.** The only language discoverable in Great Britain in Roman times is therefore 'Celtic,' although, in respect of race, Romans do not fail to observe the existence of a 'Silurian' type in South Wales resembling the Iberian of Spain.

Thus far we find the following racial types speaking a common language, or at least cognate dialects, viz. (*a*) the Central Gaulish, (*β*) the Belgic Gaulish and Belgic British, (*γ*) the Siluro-Iberian To (*a*) first belongs the name *Celtae* , among the Celtae was first met the 'Celtic' tongue , that tongue was also spoken by (*β*) and (*γ*) , and hence has grown up a form of expression which confuses (*a*), (*β*), and (*γ*) under one ethnological head as 'Celts' The tall rufous Irishman and his short swart compatriot are popularly linked together as equally 'Celts,' endowed with a certain 'Celtic' quality of mind , and with these are frequently combined the Auvergnat French in some entirely imaginary psychological generalisation

There is, perhaps, among philologists (so far as they speak in terms of ethnology) a growing tendency to narrow the use of the word 'Celt' to the stock (tall and rufous) which is primarily responsible for the diffusion of the Celtic languages. Though this involves the transference of the ethnical name from the central people to which it originally belonged, to a people which originally had no claim to it, no practical harm would result if the name were used consistently, and if another title were no less consistently applied to the 'Auvergnat' or 'Savoyard' race. For the latter *Rhaeto - Ligurian* may perhaps be open to

least objection , ' Rhaeto-Celtic ' might only propagate the misconception

That the Belgae, or ' Celts ' in the philological and transferred sense, were racially very closely akin to, and at first sight identical ˏwith, the Teutons, is manifest from the descriptions in early writers. Strabo, Tacitus, Lucan, Dio Cassius, Silius Italicus, Ausonius, and others apply descriptive ˏterms, some to the Britons or Belgic Gauls, some to the Germans, in such a way as to show that the Southern European drew no distinction between their build, the colour of their hair, or the colour of their eyes Both are *flavi* (' yellow-haired ') or *rutili* (' red-haired '), both have eyes which are *caerulei* (' blue ') , both have the appearance indicated by the epithet *truces* (' fierce '); both have huge frames. Tacitus feels a difficulty in deciding whether the Treveri and Nervii are Germans or Gauls Strabo (vii 1 2. 290) speaks of the Transrhenane Germans as differing only slightly from the Gauls, in possessing a greater degree of the same characteristic fierceness, size, and tawniness It may be true that the ' Celtic ' individuals incline more to brachycephaly, and that there actually exist certain finer differences of eyes and complexion than the Romans observed These, however, are of little importance in view of the very striking resemblances So far as the differences exist they in all probability betoken a certain amount of racial modification through mixture, undergone by the ' Celtic,' and not by the German, contingent.

CHAPTER XI

THE ORIGINAL SEAT AND THE DIFFUSION OF THE INDO-EUROPEAN FAMILY OF LANGUAGES

IT is beyond doubt that at some period, however remote, there existed somewhere a practically homogeneous people speaking a practically homogeneous language, which we may call the *Primitive* or *Proethnic Indo-European.* The fact that the existing Indo-European tongues, as we trace back their phonetics, forms, and meanings, steadily converge towards identity, is not explainable on any other hypothesis. Everything goes to show that the said people consisted of the tall Xanthochroi, and was therefore sharply distinguished from any other race in Europe or Asia. That the derived languages are now spoken by peoples in whom the Xanthochroic element is often small and sometimes even inconsiderable, is a phenomenon of which an easy, if not immediately obvious, explanation has been given above.

It is not unnatural that inquiry should be made as to the situation of the primitive home of the Indo-European stock and the lines of diffusion of its speech. Though the matter is not one of the first importance in a general work upon language, the intrinsic interest of the subject perhaps justifies a note upon the progress of the investigation up to the present. The opportunity may also be taken to illustrate the caution with which arguments from language must be applied to the determination of prehistoric questions The search for the primitive centre and the manner of

distribution may be made more and less scientific in method, and the discussion of the geographical starting-place of the Indo-European languages has afforded exceptional scope for the play of that poetical, patriotic, or other fancy, which must end in corrupting the evidence True science will proceed only upon a collection and digestion of the data, and these are manifestly to be sought from history (in which , well-sifted tradition may play its part), from antiquarian research, from the indications of ethnology, and from the testimony of facts which appear in the vocabularies of the derived languages and in the reconstructed primitive tongue. *History* supplies definite knowledge concerning the spread of the Indo-European speeches in certain regions, as in the obvious cases of Spain and Italy *Tradition* (as in the case of the ' Dorian Invasion ' and other early Greek movements, and in that of the Eranian migrations of the *Vendîdâa*) is by no means to be disregarded *Antiquarian research* often assists in ' placing ' a people at a date long prior to that at which it is met in history proper, by means of such investigations as those of barrows, ' kitchen-middens,' lake-dwellings, and other prehistoric vestiges *Ethnology* can distinguish the greater and less purity of type prevailing in given localities, and so help to determine the probabilities of racial movement and the degree of superposition. Add to these that, if we can arrive adequately at the primitive Indo-European *vocabulary* and its meanings, we are in a fair position to name the fauna and flora with which the early people was most familiar, the most distinctly marked features of its climate and its natural surroundings, and the salient elements in its food, occupations, and external civilisation Provided always that we can assume a given word to have actually belonged to the primitive people in a given meaning, we are thus supplied with no inconsiderable data as to the probable latitude and longitude of its prehistoric abode This ' Linguistic Palaeontology,' as it has been called, has of late been cultivated with much assiduity, and, at the same time, with increasing caution. Next, by following up the development

of each of the derived speeches and comparing it with the development of each of the rest, we may in some measure secure two results · (1) we may discover in a given language the growth of novelties , new names of new objects, signs of changes of habit, of new experiences and foreign contact ; and these may afford some indication of the geographical direction in which that particular wave of the primitive language has advanced , (2) we may perhaps, from a detailed , examination of both vocabulary and grammar, detect various degrees of closeness in the interrelation of branch with branch, especially in respect of special elements in their *cultus* , and hence we may gather a clue to their earlier situation in some closer or less close juxtaposition, as the case may be, to each other.

It is manifest that any serious attempt to determine the original home and the lines of diffusion of the Indo-European tongue will be based upon data drawn from all these complementary departments of investigation, and not upon those of one alone. Yet this fact has often been forgotten or ignored, and, even where it has been remembered, the conclusions derived from the examination of the languages themselves have been vitiated by many dubious assumptions as to what the vocabularies of those languages actually prove or disprove.

Within the generation after the discovery that the Indo-European languages constituted a distinct family, the notion universally prevailed that the primitive abode of the primitive stock was to be sought in Asia To a large extent this notion was a pure assumption There were, however, two causes which combined to maintain its vogue.

In the first place, the surprising discovery in Asia of a very ancient Sanskrit literature, and of an only less ancient Zend, led to an exaggerated estimate of the relative antiquity of those languages The European tongues, even Greek and Latin, appeared suddenly to have grown young by comparison, and there were not wanting reputable students

who, like F Schlegel (1808), actually derived the whole family from one or other of these more venerable Asiatic representatives   It was not yet realised that, if it had been possible to acquire documents of Latin or Gothic at as early a date as those of the Vedic Sanskrit or the Avestic, the former languages at that date would have been found to possess a character equally archaic.   The research of historical and comparative grammar leaves any other opinion barely conceivable   If the step from the Gothic of the fourth century A D. to even the least advanced Teutonic speech of the present day is so great, what appearance would a primitive Teutonic of, say, 1000 B C have borne as compared with the Gothic which we know ?   If all the records of the dead languages of the Indo-European family had vanished, and no data existed but those afforded by the living speeches of to-day, by far the more archaic types would now be extant in Europe, Lithuanian standing distinctly foremost in this respect   What is the case in the twentieth century A D. may well have been the case in 1500 B.C., but, unfortunately, the records for that date are only found in one quarter, namely, in Asia.

In the second place, both Biblical and profane history had made inveterate a habit of looking to the East for the origin of all civilisation found existing in the West.   But here we are concerned with the possession of a mere language ; and this is altogether distinct from the acquiring of a social, religious, or artistic culture.   As late as 1840 the distinguished F. A Pott was satisfied with this deduction from irrelevant analogy, and he failed to perceive that his assertion *ex oriente lux* belonged to the province of fancy, not, of argument.

Discussions of an ostensibly more reasoned character were not, indeed, absent.   Rhode (1820), taking his stand upon the tradition of a series of Eranian migrations recorded in the *Vendidâd*, and Lassen (1847) and others, supporting him by a number of mostly superficial or wholly futile arguments which it is scarcely profitable at this date to

recount, placed the primitive centre on the Asiatic plateau about the upper Oxus and Jaxartes   Pictet (1859) similarly argues for Bactria and its vicinity, in a work which aims at combining what are considered to be the geographical probabilities of migration with indications afforded by Indo-European words.   By a process sufficiently familiar when the conclusion is—however unconsciously—prejudged, he forces from the vocabulary relating to the fauna, flora, natural features and products of the primitive abode, all the evidence calculated to support his theory.   It has, however, been left for later and more philosophical inquirers, such as Schrader, to demonstrate the rigorous principles by which the linguistic data should be sifted.

Though   the   Asiatic   origin   of   the   Indo-European languages is still not wholly surrendered by the older generation of students, it now reckons few supporters among those who were not, so to speak, born into the notion   As early as 1851 Latham had preferred a European cradle of the family, and in 1862 he elaborated the position that the Asiatic, being the lesser, contingent was the more likely to have left the neighbourhood of the European, which is the greater, than *vice versa*, there being nothing but a tacit assumption to the contrary   Since that date Benfey has decided for Southern Russia, Geiger (largely from the indications of the primitive flora) for Central Germany, Cuno for the long northern plain of Europe, Posche (from a peculiar fancy as to topographical causes of 'depigmentation' resulting in a blond type) for the middle of Western Russia in the marshy neighbourhood of Pinsk, Penka (mainly on supposed geological grounds) for Scandinavia.   The divergence is considerable, but the net result indicates at least that the Southern and Western parts of Europe are virtually out of the question.   If, without disrespect to the labours of the writers named, we may be permitted to pass upon them, in the shape of brief *dicta*, verdicts which have been arrived at after proper consideration, it will suffice here to remark

that, (1) Penka's arguments are somewhat fanciful and far-drawn, although he has meanwhile rendered good service in directing attention to the fact that one cause of divergence between the speeches derived from the proethnic Indo-European must lie in the influence of the various non-Indo-European peoples over whom the advancing waves of Indo-European speech have swept He urges, for example, that special phenomena of the Lithuanian and Slavic branches may be explained by the influence of sundry Mongoloid speakers of Ural-Altaic tongues, who have been blended into a social and linguistic unity with ' Indo-Europeans ' (2) The position of Posche, that the ' Indo-European ' ethnological type is the result of albinism produced by the peculiar marshy environment of Pinsk, is not supported by any considerable authority in physiology (3) Cuno's claim is based upon the unjustified assumption that the primitive stock must have been extremely numerous, and in any case it ignores the consideration that, before a people is extremely numerous, it must once have been small, and that therefore our original *incunabula* are still to seek. (4) Geiger's data are inadequate to the subject, and the reasoning upon them is not convincing. (5) Benfey pretends to no fulness of treatment

By far the most satisfactory, if not in all respects satisfying, treatment of the question is that of Schrader, who is led by exhaustive arguments of an eminently judicial character to place the most probable seat of the undivided Xanthochroi on the Middle Volga, and to postulate a subsequent period of common life for the European division in an area approximately bounded on the south by the Danube, on the east by the Dnieper, on the north by the forests and swamps of Volhynia, and on the west by the Carpathians.

That the **Sanskrit**-speaking people entered India from the north-west seems clear from the fact that the topography of the Vedic literature does not extend east or south of the Punjab The evidence of language, particularly as relating

to culture and religion, makes it tolerably certain that there was a period of joint 'Aryan' (*i e* Indo-Eranian) life. We may assign a fair value to the tradition of Eranian migration recorded in the *Vendidâd*, according to which the starting-point (*Airyana Vaêjanh*) of that branch lay in the neighbourhood of Sogdiana , and we may combine this hint with our historical knowledge that the West Eranian speech was forced along from the east in Medo-Persian times. From all these considerations we may reasonably arrive at the modern Bokhara as a highly probable landmark in the march of the Indo-Eranian contingent. Though, through lack of similar data, we can take no further step north or west, the undoubted racial affinities of the high-caste Aryans in ancient times are to be sought in Europe, and, as Latham fairly urged, it is *a priori* far more probable that the comparatively few Asiatic members of the Indo-European family had severed themselves from the comparatively numerous members in Europe than that the reverse should have happened Of the European languages the Baltic-Slavic branch is recognised by philologists as being phonetically the most immediately related to the Indo-Eranian, and if at the earliest discoverable period the line of affinity runs from Russia to the vicinity of Bokhara, it is no rash speculation, especially in the light of modern analogy, to conjecture that the Indo-Eranian division found its way to the latter neighbourhood from the north of the Caspian.

In view of its phonetics and its culture-vocabulary the **Armenian** language is more naturally associated with the European than with the above-named Asiatic members of the family There appears to be truth in the remark of Herodotus that the Armenians were "a colony of the Phrygians," and of Eudoxus that they were "Phrygian by race and much like the Phrygians in language"[1] But the Phrygians in their turn appear, on ancient evidence (which is certainly better than mere modern guesswork, and in this

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[1] The same association is made in Gen x 3, where Ashkenaz and Togarmah (Phrygians and Armenians) are 'brothers'

instance is supported by a particularly strong consensus), to have passed over to Asia Minor from Thrace. It is natural, therefore, to suppose a line of advance from the European side of the Propontis along the northern half of Asia Minor almost to the Caspian, the linguistic links in the chain being Thracian—Phrygian—Armenian.

Meanwhile, of the situation of the speakers of Indo-European languages in Eastern Europe it is difficult to find satisfactory evidence. These were much further afield from the Greek observers than were the Phrygians and Armenians. 'Scythian' and 'Sarmatian' are terms very loosely applied by ancient authors to peoples northward of the Black Sea, and, considering the generally nomadic and shifting character of the hordes concerned, and the absence of any sound chartographical, ethnological, or philological science among the ancients, it is necessary to regard with much suspicion the conflicting statements as to the race, language, or geographical extension of tribes in these regions The probabilities appear to be strongly against regarding the titles 'Scythian' and 'Sarmatian' as properly borne either by Slavs or by peoples closely related to Slavs, although it is very probable that true Slavs, situated more to the north and north-west, were often loosely included in the comprehensive expression. Though the question is an open one, the more probable theory is that the region north of the Black Sea, from the Danube and Pruth through South Russia and the Cossack country into Asia, was occupied in 'classical' times by tribes whose languages would mostly come under the Ural-Altaic classification. The alternative, but less likely, hypothesis is that Scythians and Sarmatians both spoke Indo-European tongues, which would form links between the Slavonic and the Eranian

North of these, however, we meet in Herodotus with the mention of the Neuri,[1] who are separable from the Scythians and employ "a distinct speech." With these are associated

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[1] The name may still exist in those of the river Nureff and the Nurska country on the Bug (the tributary of the Vistula)

the Budini (north of the Sarmatians), "a great and numerous race, strongly marked all through by grey-blue eyes and ruddy hair." For these the geographical indications of Herodotus point to a tract extending from the provinces of West Russia (Volhynia, Grodno, Minsk, Mohilev) eastwards, while the ethnological traits undoubtedly suggest the Xanthochroic Slavs, with whom they are now generally identified Early in our era the Slavs are met with under the names *Veneti*, *Venedi*, or *Venedae*, the 'Wends' of later German history. According to Tacitus the Venedi "roam through the woods and mountains" between the Peucini (*i e.* the Teuton Bastarnae) and the Fenni (*i e* the Finns) Pliny and Ptolemy place them in the same region, which is practically that above described It would not, of course, be easy to separate them in all cases from their Lettic and Lithuanian neighbours and linguistic congeners, but the latter (or Baltic) division would seem to be represented by tribes known to Tacitus as the Aestii and by the Galindae and Sudini of Ptolemy. All the data, therefore, combine to place the Slavs, as first known to us, in a tract of Western and Central Russia, with the Letto-Lithuanians separating them from the Baltic on their north-west, with Finnic peoples bordering them on the north, and with non-Indo-European hordes to the south-east.

Meanwhile, **Teutonic** languages were spoken from the Vistula to the Rhine (where Pytheas in 325 B C found a nation distinct from the Celts), and it was Germans who limited the Venedi to the west

That the central highlands of Europe, the basin of the Upper Danube and of the Main, and Bohemia were once occupied by **Celtic**-speaking peoples, is a conclusion not only deducible from the intimations of history, but apparently proved by the Celtic place-names surviving in the districts concerned This fact in itself would not, of course, decide the question whether the speakers of Celtic had originally passed from the east through that region or had overrun it from the west, but argument is all in favour of a migration

through steady pressure from the east, which forced them into Gaul, and thence into Britain on the one hand, and towards Italy or Spain on the other. The ethnological and linguistic application of the term 'Celt' has already been discussed, and the remark of Herodotus that Celts are to be found "outside the pillars of Hercules," and are "after the Cynetes the most westerly people in Europe," is perhaps not of much value as establishing the contemporary situation of a definite racial or linguistic stock. It does, however, fairly correspond to what is otherwise known or conjectured of the situation of Celtic-speaking peoples, who came "next west" to an Iberian or Euskarian population.

For the **Italic** division of the Indo-European family little more can be said than that (1) the advance of the language in the earliest historical times is southward, (2) the earliest situation of the Umbrians, if tradition and archæology can be trusted, was farther to the north, where they occupied the Po valley, from which they were subsequently forced south by Gauls Meanwhile, in the north-west and west, the Ligurian coast and Etruria were occupied by non-Indo-European tongues, while the islands (including Sicily) and the south of the peninsula were inhabited by 'Iberians.' The line of entrance to the peninsula would thus appear to be from the north-east and along the eastern side From the linguistic standpoint a comparatively close connection of the Celtic and Italic branches is practically certain, and it would not be unnatural to suppose that the two had at some period formed but one division somewhere nearer the centre of Europe

The inroad of the **Hellenes** into Greece, it is no longer doubted, took place from the north, and rather along the western than from the eastern side of the Strymon.

The probabilities resulting from the material thus collected may perhaps be best embodied in the form of an outline map, in which the hypothetical movements of the several branches of the language from the hypothetical primitive centre are indicated by an arrow.

FINNS
(MONGOLOID)

PRIMITIVE CENTRE (?)
★

Track of Aryans

S E M I T E

Armenian

SARMATIANS

SCYTHIANS

Phrygian

Baltic

Slavonic

EUROPEAN CENTRE
★

Thracian

Greek

Teutonic

Illyrian

RHAETIAN
Italo-Celtic Centre (?)
★

Italic

ETRUSCANS

LIGURIANS

C
A
V
L
I

AQUITANI

Celtic Iberian

B E R B E R

B E R B E R

Indo-European ...., *as* Slavonic
Non Indo-European ., *as* BERBER

Emery Walker sc.
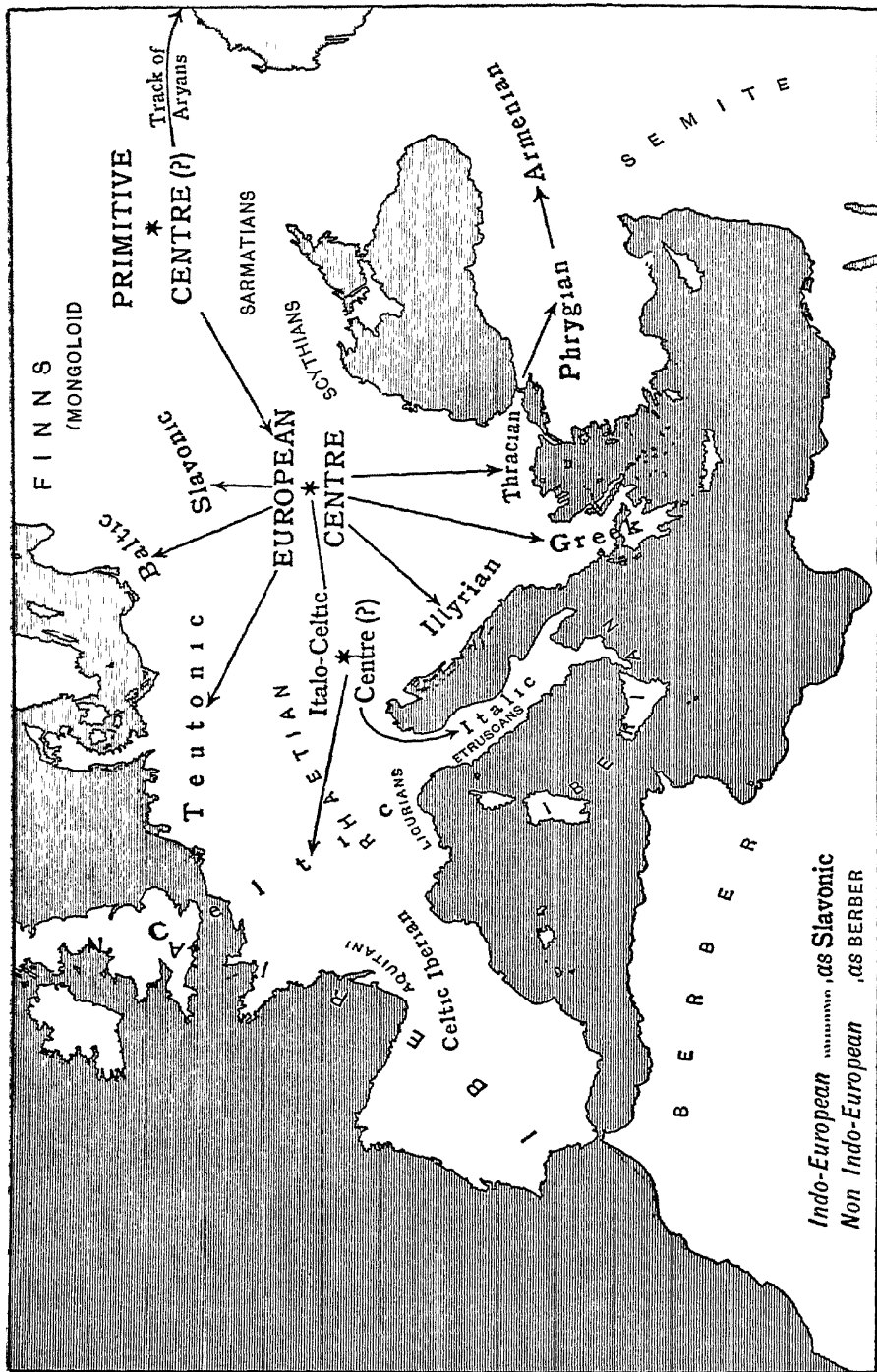
While history and tradition thus point to an East European centre, the same hypothesis is supported, or, to say the least, in no way challenged, by the **linguistic** arguments. In reconstructing the primitive Indo-European speech from the data afforded by its several branches, we arrive at a language already marked by slight dialectal variations. It may not be difficult to postulate a still earlier stage of that ·language, in which such local divergences did not yet exist ; but, as a fact, on reaching the common linguistic *terrain* to which the branches converge, we find at least phonetic differences already in operation The manner in which disintegrating tendencies arise and become established till they result in dialects, is fully discussed elsewhere Everything goes to show that the great divisions of the Indo-European family of languages represent so many local dialects, or amalgamations of local dialects, of the common original. Doubtless many others, originally interlinking with these in a complicated chain-work, and serving as continuous transition-steps, have died out or been absorbed, until the surviving divisions are marked by comparatively wide divergences In any case, philologists no longer hold the view (largely due to the assumption of an Asiatic starting-place) that, from time to time, a large contingent (A, B, etc.) of the hitherto linguistically homogeneous people broke off in a certain direction from the original home, developed certain characteristics of its own in consequence, and then split again in the same manner into minor branches (*b*, *c*, etc.), each of which after a time developed new features in virtue of its isolation In other words, the probable course of linguistic separation of the Indo-European branches is *not* to be represented by such a diagram as the following —
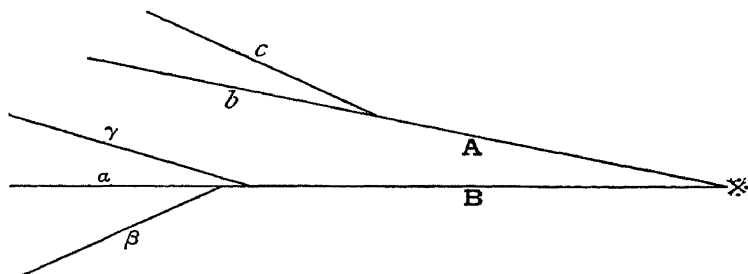
Such a history is, doubtless, readily conceivable, and may actually have occurred in the case of this or that family of languages, but it is contrary to the evidence in the case of Indo-European   It could be upheld only by a distinct gradation in the affinities of the several branches, and that gradation is not to be found in fact.   We cannot (except with Italic and Celtic) take any two branches and, from the total argument of their vocabularies, grammar, and phonetics, relate them more closely as against a third. If, for example, we discover an apparently special affinity between Greek and Latin in respect of vocabulary, we immediately appear to see no less special an affinity between Greek and Indo-Eranian   If the Baltic-Slavic tongues exhibit a marked phonetic characteristic in which they are at one with the Aryan branch, in another respect of phonetics they will disagree with the Aryan and agree with the Greek or Teutonic   The notion that the 'classical' tongues, Greek and Latin, were related in a special degree of intimacy, was chiefly due to the fact that those languages were habitually studied together, and their relationship of grammar and vocabulary therefore brought into strong relief, while the other branches of the family had not received the same detailed attention   More accurate research shows that a resemblance of Greek to Aryan is at least as distinct, if not more so.   In the vocabulary relating to arms both offensive and defensive, and also to agriculture, that agreement is as striking as is the almost total unlikeness of Latin to Greek in the same respects.   In point of grammar—as in the case of the 'augment,' the infinitives, and many other elements of their morphology—the same apparent nearness of Greek to Indo-Eranian reveals itself   Nevertheless it is none the more possible to commit ourselves to the hypothesis of a special Graeco-Aryan connection, to be set in sharp antagonism to a Graeco-Italic affinity   That Greek and Latin not only agree in a genitive plural *-āsom* (Gk. -āων, Lat. -ārum), which is found nowhere else with nouns, but also in a quite peculiar

plural imperative form in *-ontō(n)* (Gk. φερόντων, Lat. *feruntō*), can hardly be set down to mere chance coincidence. Such considerations bring us more naturally to a view of the relationship between the three branches which we may embody in the diagram
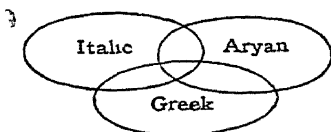
Once more, the original palatal and velar explosives of Indo-European are treated by the Aryan and Baltic-Slavic branches in a way which markedly distinguishes these from nearly all the European divisions of the family   The palatals, for example, are regularly converted by them into spirants, mostly sibilants, while Greek, Latin, Celtic, and Teutonic no less regularly retain them as explosives. Thus the *$\hat{k}$ which remains *k* (whether so written or as *c*) in the latter tongues, takes the shape of *ś* in Sanskrit, *s* or *s* in Zend, and *s* in both Lithuanian and Slavonic.   The consistency with which this rule is carried out might point to a prolonged juxtaposition, if not community, of the Baltic-Slavic and Indo-Eranian divisions, and it might seem a reasonable theory that they developed this phonetic characteristic in common, while separated from the remaining branches.   Yet, on the other hand, the Baltic-Slavic tongues retain, with the European, the *e and *o, both of which the Aryan branch invariably converts into *a* , and, whereas a case-ending containing -*bh* belongs to Aryan, Latin (-*bus*), Celtic (-*i-b*), and is found in old Greek (-φι), Baltic-Slavic agrees with Teutonic in rejecting this inflexion for a form in -*m* (Gothic -*m*, Lith -*mus*, Old Slav. -*mu*).   It is manifestly safer, therefore, to suppose an earlier relation
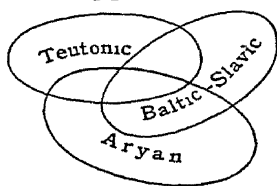
with, perhaps, a later situation
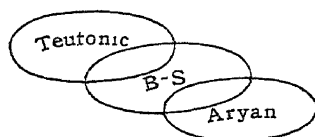
than to postulate for any period a connection represented by

With Italic and Celtic the case is different Unequivocal morphological affinities of a special character occur in the shape of a passive in *-r* (Lat *sequi-tu-r*, Old Irish *-seche-tha-r*) and in the creation of a compound future tense, Lat *-bo*, O. Ir *-b* (Lat *amā*bo, cf O Ir *charu*b). The evidence of phonetics and of general resemblance, after all allowance has been made for borrowing, points in the same direction We need not, indeed, assume an entire identity for the linguistic ancestors of the two branches, but we are compelled to regard them as having been in unusually close relations with each other in the original home and probably afterwards.

There are few inquirers who do not now accept upon the evidence the rational 'wave–theory' or theory of 'continuous transition' advanced by J Schmidt, according to which the several divisions of the cognate languages are the development of dialects which originated *in situ*. The process of such development, which is not elaborated by Schmidt, is examined elsewhere in this work, and explained as the inevitable experience of any uncultivated language extending over a wide area

Taking the relative positions of the branches of the Indo-European family as we find them at the date to which the map above given refers, we obtain the following scheme —
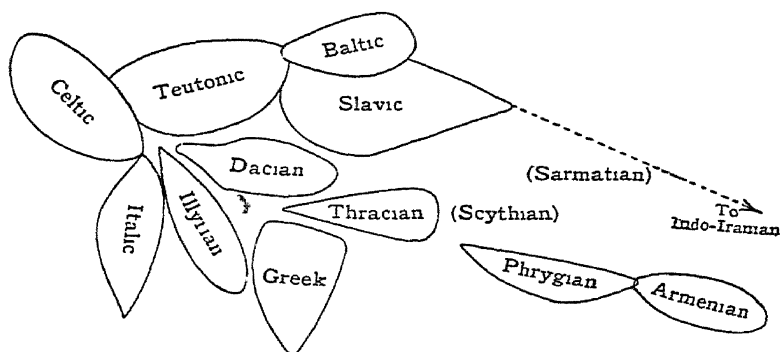
A search for the interrelations of the groups on linguistic grounds leads, as we have seen, to the view that, except in the case of Italo-Celtic, those relations are practically equal. The natural conclusion from this fact, combined with the indications of geography, is that, at a period just prior to the actual break-up of the family, the dialectal areas were inter-linked to each other somewhat after the following fashion [1] —
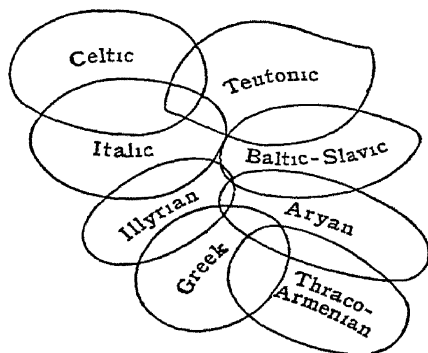
[1] Schmidt points out that, in the matter of vocabulary, there are special correspondences interrelating the branches with each other in ways which make against any other theory of diffusion   Thus, while Greek has 132 words *peculiar* to its connection with Latin, it has at the same time 99 peculiar to a connection with the Aryan tongues   The figures given for Aryan and Teutonic are 15, for Aryan and Italic 20, for Aryan and Baltic-Slavic 90, for Teutonic and Baltic-Slavic 143   In some cases, of course (as between Slavs and Teutons, or Greeks and Italians), simple borrowing of words may have taken place at so early a date that the borrowed words have gone through the same phonetic experiences as the native vocables, and so escape detection as borrowings   Nevertheless, had there been a specially intimate connection between two branches we should have looked for more proof in the vocables.

If this diagram approximately represents the truth, the primitive centre can hardly be looked for elsewhere than in the same region of Eastern Europe to which we were brought above by history and tradition

In the handling of the Indo-European vocabularies for the purpose of drawing conclusions as to the original home or the original civilisation, great caution must be employed. Before there can be any certainty that the undivided (or 'proethnic') people was familiar with a given plant, animal, natural feature or phenomenon, social custom, or implement, it is necessary to ascertain that a word unmistakably expressing the concept in question is or has been shared by a conclusively *representative* number of the derived speeches   It is unsatisfactory to quote the agreement of even a considerable number of languages whose speakers have always lived in close vicinity, or have exercised more or less close relations of trade or culture.   Such agreement is not representative.   If we found that the Celtic, Italic, Teutonic, and Slavonic branches possessed a common name for the same object, while in other branches the word was non-existent, we might, according to circumstances, argue for either of two views · (1) that the object was not familiar to all the stock, but was only known (*a*) in that part of its area occupied by the linguistic ancestors of the said four branches, or (*b*) in some new region subsequently occupied by those ancestors while still associated ; (ii.) that the name either (*a*) originated in post-ethnic times with one of the four branches, and was transmitted to the rest, often along with the object itself, or else (*b*) was borrowed by all alike from some alien source   No doubt any late transmission would naturally betray itself in the shape of the word, which would ordinarily contravene some phonetic law of the borrowing language.   A very early borrowing, however, might be anterior to the operation of such phonetic laws, which would therefore act upon the loan-word as much as upon the native material.   It is clear that the

probabilities in the case of each word require to be estimated separately

As against either of these views, however, it might be urged (iii.) that the name might easily have belonged at one time to all the branches, but that several may have dropped it out of use, while four have chanced to retain it. Thus the fact that for the Greek θυγάτηρ (*thugatēr*), Skt. *duhitar*, Eng. *daughter*, the Latin has no etymologically corresponding word, but only the distinct *filia* or *nāta*, would hardly be taken as proof either that daughters were unrecognised or that they enjoyed no distinctive name It would be no sufficient answer to this third view if one remarked upon the apparently significant fact that the word was retained only in four geographically neighbouring divisions Even among the primitive people dialects sprang up, and differences of vocabulary arise in dialects as much as differences of phonetics. Experience shows that a particular dialectal section often completely drops a term which was once in current use over the whole speech-domain The linguistic forefathers of the four branches in question might have formed a dialectal section in respect of retaining a particular word, however much they may have differed among themselves in other respects.

Any one of these three positions is manifestly reasonable, if not carried to the point of deliberate resistance to the probabilities of the case The unprejudiced inquirer will hold one view in one instance and another in another, according to the aggregate of the evidence.

Finally (iv.) it might be argued that the object was perhaps entirely unknown to the primitive people, that it was met with by the separate branches after the dispersion, that each either invented a name out of its own resources or else applied some existing term in a new (or transferred) sense, and that a certain number of them chanced to invent or to transfer the same word. For this position little can generally be said The laws of probability are against such fortuitous agreements on any large scale, and the

improbability is immensely increased when those who merely 'chanced' to invent or transfer the same terms 'chance' also to be the nearest neighbours.

To take a concrete example. The sea bears in Latin, Gaulish-Celtic, Gothic, and Old Slavonic respectively the cognate names *mare, more, marei, morje*. No such word appears in Greek,[1] Armenian, or Indo-Eranian. According to the above four lines of argument we may ask : (1.) Was . the sea known only to one half of the stock, comprising the linguistic ancestors of the branches first mentioned? (ii.) Was the sea known only at a still later time to a single branch, which passed on the name to its neighbours , or, as an alternative to this, was the term borrowed by all alike? (iii) Was the sea known to all the stock, but its name changed by one or other of the divisions, much as the name for 'horse' (Germ *Pferd,* Lat. *equus,* Popular Lat. *caballus*) has changed within historical knowledge? (iv) Was the sea known to none, but did the word represented by *mare,* etc , originally mean, say, a lake or pool, or is it some new invention expressing, say, 'bitter' or 'shining' or 'restless,' or some other notion upon which four branches chanced to light equally?

Few would doubt that, in this instance, the probabilities are altogether against both the second and the fourth views. On the one hand, the geographical situation at any known or imaginable stage of the history of the four branches makes it extremely unlikely that the Italic division would borrow its word for the sea from the Teutons or Slavs or *vice versa,* or that all these alike would borrow from some alien source. On the other, the entire agreement in both root and suffix-element puts out of the question the notion that each people, by an identical psychological process both in respect of the appellation itself and its morphological determination, separately invented precisely that term for the sea ; while, before we could treat as better than any other

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[1] Possibly, however, Μαῖρα, the name of one of the sea-nymphs in Hom *Il* 18. 39 sqq., may conceal a trace of the cognate   Μαῖρα = †μαρ-ια (= *mar-ya*)

guess the notion that *mari* is simply a general primitive word transferred from another sense to the sense 'sea,' we must find some traces of the existence of the word at all beyond the branches in question. The first and third views would, perhaps, have been almost equally tenable if it did not appear, on closer examination, that, whereas the four branches in question agree in their word †*mari*, and may represent an original dialectal division of the family in that respect, the branches which do not possess the word †*mari* do not show any agreement in an alternative term. Hence it might rather be gathered (though it is not, of course, proved) that the ancestors of the latter branches were not together acquainted with the sea in the same degree as were the former.

Hitherto we have dealt with the case of a word contained in a group of languages which, from their position, cannot fairly be considered representative of the whole family. Adequate representation begins when the hypothesis of a later borrowing, or that of a common development in one dialectal section of the stock, is precluded. This would manifestly be the case if the four branches, Aryan, Armenian, Greek, and Celtic, should agree in the use of a particular name for a particular thing. Though the word would still—as in the instance already supposed—be found in but four divisions, the argument for its original existence throughout the entire stock would be on a very different footing. It would be difficult to maintain any other than the third view of the four above enumerated. The more widespread the word, the more entirely convincing its ascription to the earliest stage; but the agreement of very few 'representative' branches is practically sufficient. The Sanskrit, Armenian, Greek, and Irish words for 'a bear' are respectively *ṛkša, arj, ἄρκτος (arktos), art.* It is impossible not to believe that the bear was known under a common name to all the stock. The fact that the Latin is also *ursus* (= †*orcsus*) increases the certainty, if increase were desired. The name for copper is in Sanskrit *ayas*, in Latin *aes*, in Gothic *aiz*. The geo-

graphical situations of the three branches make any late transmission of the word from the European to the Asiatic language, or *vice versa*, inconceivable, however readily we might conceive of a borrowing between the Latin and the Teutonic. That a word with stem **ajes-* existed in the primitive tongue in the sense of 'copper,' is an inference practically inevitable

In pursuing this line of investigation the philologist may easily travel beyond the evidence Before ascribing to the primitive people an acquaintance with an object, a custom, or an operation, it is necessary to make sure, not only that they possessed the word, but that to the word there was attached the precise sense in question. That the original ' Indo-Europeans ' were familiar with the horse, ox, sheep, pig, dog, wolf, bear, beaver, otter, goose, duck, and mouse ; with the birch and willow ; with winter, snow, and spring , with wheeled waggons and yokes ; with honey and mead , is placed beyond doubt by the widespread identity of the word and its meaning in each case That they knew the oak is probable, but not proved, inasmuch as, though the Greek δρῦς (*drūs*) and the Irish *daur* both mean 'oak,' the Gothic *triu*, Sanskrit *dru-* have the meaning 'tree,' while the Old Norse *tyr* (another form of the same word) is ' fir.' The oak is pretty obviously 'the tree' *par excellence*, and it is easy to understand how in Scandinavia it was the fir which became ' the tree.' [1]

Often, as Schrader fully demonstrates, a word in a certain distinct meaning is confined to the European languages, a fact which may be due either to a joint European period after separation from the Indo-Eranian, or to the loss of the word by the Asiatic division, thanks to new circumstances or to the loss of the thing itself Thus the beech indisputably possessed a name common to the linguistic ancestors of the Teutonic, Slavic, Latin, and Greek divisions (although, since there is no beech in Southern Greece, the name was there

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[1] The same change of meaning occurs in the equation, Latin *quercus* ('oak ') = O.H.G *forha* ('fir').

transferred to the tree nearest in appearance [1]) Whether it was ever possessed by the linguistic forefathers of the Aryans also, it is impossible to tell, since they could have no occasion to use the word when they came into a country which produced no beeches, while they might not, like the Greeks, happen to transfer the name to any other tree From a collection of examples, however, Schrader arrives at the conclusion that a joint *European* period is to be assumed, during which at least that contingent of the stock was acquainted with the sea, with the oak, beech, and pine, with barley, wheat, sowing and ploughing When we have put together these data, they cannot, indeed, be called very decisive as to the primitive seat of the linguistic stock ; for, though certain latitudes are necessarily excluded, and merely mountainous regions rendered highly improbable, there is still a vast space left to satisfy the conditions. Highly significant, however, is the fact that the beech is not actually found eastward of a line from Königsberg on the Baltic to the Caucasus. All that can be said on the strength of this description of evidence afforded by the Indo-European vocabulary, is that the primitive centre already arrived at by the arguments from history and dialectal interconnection is not disturbed by it, but further supported.

It is hardly germane to this discussion to enter into an examination of the primitive culture of the Indo-Europeans It may, however, be of some profit for the general student of language to be reminded of the diffidence with which conclusions touching this matter should be drawn from vocabulary. Thus, that the primitive people constructed habitations of some kind, with doors of some description, is demonstrated by the series of words Skt. *dama*, Arm *tun*, Gk. δόμος (*domos*), Lat *domus*, O Slav. *domu* (connected with the root **dem*, ' build,' from which comes *timber*, Germ. *Zimmer*), all meaning ' house,' and in the same languages respectively *dvâr-*, *duru*, θύρα (*thura*), *fores*, *dviri*, all mean-

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[1] Phonetically Gk. φᾱγός (*phāgos*) = Lt *fāgus* = Slav *buky* = Eng *beech*.

ing 'door.' Yet these words in themselves prove nothing as to the material and shape of the house or door. Nor does the absence of a common word for 'window' absolutely prove that windows were unknown It is only the collection of other data which leads to a natural inference that the houses were built of mud, wood, and straw, that they were thatched, and that they were without windows Similarly the words *nâu-*, *nâvi*, *vaûs* (*naus*), *nâvis*, *noi*, in Sanskrit, Zend, Greek, Latin, and Old Irish respectively, may be translated 'ship,' but the object originally so named may have been simply a 'dug-out' or other boat The Greek *μύλλειν* (*mullein*), Lat. *molere*, Goth *malan*, O. Slav *malja*, are used of grinding corn in a mill, but the original Indo-European sense may have been simply that of grinding or pounding between two stones That there was a root *$uebh$ in some sense of 'weaving' is clear from Sanskrit *vabh*, Ossetian *wafun*, Eng. *weave*, Gk *ὑφή* (*huphē*), but of what kind was the operation, and with what appliances? Much suggestion and some positive information can, of course, be gathered in this way, but the earlier inquirers were apt to be over precise in their pictures of the civilisation of the prehistoric undivided people

Particularly fascinating was the quest for the primitive religion, and theories which connected many of the larger and smaller names in the Greek mythology with others in the Indian branch were advanced in violation not only of general probabilities, but also of the known phonetic laws. As a fact, the only pertinent equation which ultimately emerges is that of Skt. *Dyáuš-pitar*, Lat. *Jū-piter*, Gk. *Ζεὺς πατήρ* (*Zeus patēr*), Teutonic *Tiu* The primitive word *$dieus$* might, no doubt, have been used simply of the sky, but the peculiar agreement of several branches in the frequent addition of *$patér$* ('father'), and the complete characterisation of the word as a proper name (while other terms were substituted for 'sky'), practically demonstrate that the primitive stock already recognised a deity bearing that name. That the notion of deity itself existed, is fairly indicated by the words

dēva, deus,[1] *tivar* (plural), *dēvas,* occurring in Sanskrit, Latin, Old Norse, and Lithuanian respectively. For the rest, it proves nothing to quote a common name for 'dawn,' 'fire,' and 'sun,' and to show that in several branches these entities are poetically personified and in some cases worshipped. Nor is it worth the trouble, even when we have allowed for possible deviations from phonetic regularity on the ground of 'popular etymology' and other disturbing psychological causes, to force a word like Ἐρινύς (*Erīnus*) into identity with Sanskrit *Saranyu.*

[1] The Greek θεός (*theos*) is a different word

CHAPTER XII

PHONETIC CHANGE

Sound and thought: learning to speak

LANGUAGE is primarily the communication of ideas by means of articulate sounds   The attempt to make such communication definite naturally grows in the human being with the growth of ideas, or at least with the consciousness of possessing them.   Before the development of its reason the infant expresses its discomforts and its imperfectly realised desires by natural cries, which are inarticulate, and which do not belong to language in the proper sense.   It may be reasonable to suppose that these were the original germ of language , nevertheless they are not yet language. Language begins when the sounds uttered are articulate, habitually attached to particular ideas, and recognisable by others as expressing those ideas   Such sounds do not come to a child by nature and intuition, but depend upon its social environment   They are acquired from example by imitation. The English child attaches English, and the French child French, sounds to the same notions   Within the borders of the same language the child of the peasant, the *gamin* of the city, and the child of refined nurture, acquire a different articulation for what is nominally the same group of sounds. The human being, in the words of Aristotle, is μιμητικώτατον τῶν ζῴων, " the most imitative of creatures," and " acquires all his first lessons by means of imitation "

The sound-picture, derived from the average articulation of the environment

The first efforts of a child at speech are attempts of its vocal apparatus to reproduce for a certain purpose the sounds which it hears habitually applied to that purpose Impressed upon its mind through the ear there comes to exist a certain sound-picture. The more often it hears a sound, the more distinctly is the picture impressed. If, as sometimes, though rarely, happens, the sound (or sound-group) is heard only from the lips of one person, such as a mother or a nurse, it will have been consistently articulated, and the mental picture of the child will correspond almost absolutely to the special articulation of that person. If, as is more commonly the case, the sound (or sound-group) is heard from the lips of a number of speakers, such as the two parents, elder children in the family, and playmates, the articulation will not have been consistent, and the sound-picture impressed on the mind of the child will mostly be a compromise, the result of a series of superpositions[1] It will correspond to the *average articulation of the environment.* That average is determined not solely by the average of the manners of articulation of the several persons concerned, but also by the degree of frequency with which one such articulation is heard as compared with another. Thus if the child is surrounded by varying articulations a, a_1, a_2, a_3, it may happen that a_1, being that of a mother, nurse, or constant playmate, is heard as often as all the rest put together The sound-picture resulting in the mind of the child before and during its own attempts at utterance might therefore, roughly speaking, be put down as the average of $a + a_2 + a_3 + 3a_1$. We are, however, not dealing with material quantities, but with subtle psychological processes, and the fact appears to be that the much greater frequency with which one articulation (a_1) is heard tends to make its share in the sound-picture greatly outweigh the share contributed

[1] That is to say, the sound-picture is a kind of composite photograph.

by the others   The result is that the sound-picture in such a case is really a_1 somewhat qualified by the interference of the more occasional articulations.   With this understanding it may be laid down that, given a normal trueness of ear, the mind of the infant will develop a certain sound-picture, which, for practical purposes, may be said, to correspond to the 'average articulation of its environment.'

We must, however, remember in this connection to speak only of children while they are acquiring their speech in a purely natural manner, *i e* by the ear, without the interference of formal instruction in purely theoretical ' correct,' as opposed to 'incorrect,' pronunciations   In cases where such instruction is given, and where a particular articulation is held up as alone to be imitated, while others are checked and ridiculed, the tendency to the average is in a large measure thwarted.   In early and uneducated societies, or among uneducated or uncritical portions of a society, this disturbing artificial factor is almost wholly absent, and in the general treatment of phonetic change in language in the past it may be theoretically ignored

The sound-picture in later life

Modifications in the sound-picture are not confined to the period of infancy.   They proceed, though in a diminishing degree, throughout life.   In educated societies, indeed, it is usual for the individual to keep a watch upon articulation, and possible innovations in his sound-picture are checked by conscious mental acts   Apart from this consideration the mind, after maturity, is less plastic and receptive ; impressions are less vivid, and the sound-picture formed in youth grows less liable to interference from influences of later environment Nevertheless some degree of shifting does actually occur, and in the earlier portion of life may be very considerable, whether brought about unconsciously or by effort   Its effects are frequently seen in the case of persons who have changed their abode from one district to another, or have

long resided abroad, or have risen to a more cultivated plane of society   In later life endeavours to adjust the articulation to the new sound-picture are often as unsuccessful as similar attempts to pronounce a foreign tongue. They do, however, indicate that the sound-picture itself has undergone alteration.

Relation of the sound-picture to utterance

For the endeavours of an infant at articulation the existence of a mental picture of the sound is necessarily presupposed   How that psychical condition comes to relate itself to physical operations of the organs of speech is an obscure question which lies beyond our scope   There is, of course, little or no consciousness in the first attempts Equally of course any recognisable articulation has been preceded by a series of abortive efforts, which have striven to bring their effect into closer correspondence with the mental sound-picture   It is somewhat as with a person who possesses a fairly correct mental picture of a tune or an accent, and yet requires much practice to reproduce the tune in singing or to mimic the accent in speech   In the latter case, it is true, the process is conscious, while with speech it is not yet so. Nevertheless there is sufficient analogy to permit of the illustration.

When at last the efforts have resulted in actual production of the sound, the series of movements through which the vocal apparatus has passed become related in the brain (by a species of nerve-memory) with the sound-picture, and are recalled with it when the next occasion arises for their use   It is not here assumed that one successful reproduction of the mental picture by means of the voice will absolutely fix the necessary series of vocal movements in the brain, nor that the brain, in the next attempt at reproduction, will absolutely control the vocal apparatus into repeating the exact movements   It is only claimed that, if the adequate reproduction is attained with sufficient frequency, the associa-

tion of the necessary movements with the sound-picture becomes so intimate that the power of repeating them at will is mastered.

Individual deviations in the sound-picture and in utterance through physical causes

It has, so far, been presumed that the child possesses the trueness of hearing requisite for an accurate sound-picture, and also that the vocal apparatus, being normal in its power and flexibility, is capable of adequately reproducing, and makes the necessary effort to reproduce, a given sound after the ordinary amount of practice If this were always so, and if there were no disturbing psychological idiosyncrasies at work, the child would simply register the average articulation of its environment It would itself contribute nothing towards progressive phonetic change, when it came in its turn to influence others in its own neighbourhood. Indeed, if all human beings had been so constituted, by far the chief cause of phonetic variation would have had no existence. In actual experience, however, the case is otherwise On the one hand, different minds are not impressed with equally vivid or true sound-pictures On the other, dissimilarities as great as those which are manifested in external feature and physique, or in character and intellectual power, exist in the forms and capacities of the speech-apparatus.

Short of absolute dumbness, extreme departures from the normal are at once recognised in the absence of 'roof to the mouth,' in the stammer, the lisp, and that thickness of speech which is vulgarly known as 'talking with a plum in the mouth.' When a cold blocks the nasal passages certain sounds are unpronounceable The loss of teeth causes a 'mumbling' of certain others In such instances the physical defect is obvious. Sometimes, again, where a peculiarity of the kind is not sufficiently marked to admit of being named or described, the listener nevertheless feels its presence In the immense majority of cases, however,

physical idiosyncrasies, if they ever existed, appear to have been overcome. It seems as if the average speaker experiences no more difficulty with one sound than with another, and it is not suspected that, however unconsciously, he may have been slower than his neighbour to acquire the requisite flexibility for a particular articulation, or that he has been compelled to counteract certain natural tendencies with which his neighbour was never embarrassed. Even less is it suspected that, though his deviations from the required sound have been reduced to the imperceptible, they may nevertheless be still in existence in some minute degree. Certain it is that every individual is naturally better equipped for certain articulations than for others, that he requires longer practice for the adequate reproduction of those others, and that, even if he attains to adequacy, he will seldom in such circumstances arrive at an absolute correspondence with the sound aimed at. The deviation of his articulation, however slight, becomes a factor in the 'average' to which he contributes, and lends just so much impulse to a sound-shifting within his sphere of influence. He is not only acted upon by his environment, he reacts upon it.

Phonetic predilections of the individual illustrated

Phonetic predilections of individuals are often clearly manifested in infants when they are at the stage called 'learning to talk.' The word 'little,' attempted in exactly the same environment, takes in the mouths of different children the shapes 'lickle,' 'ickle,' 'ittle.' For 'this' we get 'dis' and 'zis', for 'spoon' the forms 'poon' and 'foon'; for 'very' the form 'vewy', for 'you,' 'oo', for 'with,' 'wif,' 'wiz'; and so forth. In some instances the divergence is the result of defects in the sound-picture gathered through the ear. In others the ear may be at fault along with the tongue. More frequently, however, the defect lies in the control of the articulating organs.

The same divergences are shown in the case of persons

learning a foreign language   Two pupils under the same teacher and belonging to the same environment may exhibit very different degrees of aptness in seizing and reproducing particular sounds   In this case imperfect apprehension by the ear is frequently as much to blame as imperfect adaptation of the mechanism of utterance   It is the same with vocal mimicry   To reproduce a peculiar pronunciation, a 'burr,' an 'accent,' or a 'drawl,' is a rare gift, and implies an unusually vivid sound-picture directing unusually flexible speech-organs

Further illustration might be adduced, but enough has been said to substantiate the present point, which is that, in the acquirement of speech by each new speaker, the average articulation of his environment as above described, is (for physical reasons alone and without regard to psychological idiosyncrasies) not reproduced by him with the faithfulness of a phonograph, but with modifications, derived from the peculiar nature and interworking of his own hearing and utterance   For the most part those modifications are greatest in infancy and become minimised with increased practice.   They are, however, never wholly eliminated and often remain considerable

Reaction of the individual, causing a shifting in the average articulation of his environment

So far as phonetic stability is possible in a language it is only through the entire elimination of individual peculiarities But, in actual fact, these are never eliminated   In some cases they are wholly invincible, in other cases only partially overcome, in most cases rendered inappreciable, but never entirely abolished.   Thus the sound which should be w (u) may be heard occasionally as a frank v, in other cases as oo (u), in others as w but with a certain colouring which, though palpable, does not admit of description   If in most cases it is apparently w proper, yet in the production of what appears

to be the same sound, there are always infinitely subtle differences.

It follows, therefore, that there are properly as many dialects of a language as there are speakers of it. Absolute identity of speech never existed, and would not exist even if only two persons spoke a language. If, for theoretical purposes, we take the environment of two persons A and B to be practically identical and state its average articulation at a given time as x, the articulation of A will be x modified by the a which (however small) represents the uneliminated element of his peculiarities, while correspondingly that of B will be x modified by b Hence it follows that, with the continual flux of the units and the interpenetration of the generations forming any society, and with the ever-varying degrees in which their reciprocal influences are felt, the average articulation cannot remain constant at x The average of x (a), x (b), x (c), etc, shifts from x to x (y), and this, in turn, is soon replaced by the x (z) which is the average of newly developing constituent units, namely, x (y) modified by a, x (y) modified by β, etc Individually the elements a, b, c, etc, are mostly inconsiderable, and the displacement of the average (represented by y) very slight. It is, of course, the same with the further individual displacements a, β, γ, etc, and their average displacement z. But a number of inconsiderable displacements at length become very considerable in the aggregate, and the language is then found to have undergone a distinct 'phonetic change.'

Counteraction of individual influences never complete

It might perhaps be imagined that, in spite of the slight physiological deviations of the individual, it will result by the 'law of averages' that, as disturbing elements in the aggregate speech of the community, they will cancel each other In practice, however, no such complete counteraction takes place , nor is it *a priori* likely If we suppose, for

example, that there is a sporadic tendency to pronounce *w* (*u*) as *v*, this will not be corrected by any different tendency to pronounce *w* in some other manner   A substitution by some individuals of *l* for *r* will not be counteracted by a substitution of, say, *w* for *r* on the part of others   A speaker is guided by a sound-picture, which he aims at reproducing. This sound-picture is derived from a series of impressions A child hearing *w* regularly pronounced as such, but occasionally as *v*, will not have the sound-picture restored to consistency by occasionally, on the other hand, hearing *w* pronounced as *oo* (*u*)   The result would not be correction, but simply a further disturbance.   If he hears *r* habitually articulated as such, but sometimes as *l*, no counteraction of the interference with the sound-picture caused by the latter will result from hearing the sound now and then pronounced as *w*   Nature does not work in such a way that a sound, sporadically mispronounced in one direction, is also sporadically mispronounced in exactly the opposite direction in just as many and as influential individuals, or just as frequently.   A stable average would perhaps ensue if this were the case   Thus, if the sound *e* were articulated by some persons with too much 'rounding,' by the same number with just as much too little, by some too far 'back' and, by an equal number, too far forward, there might be a mathematically precise cancelling of differences   In experience, of course, such a state of things does not occur   The 'average' in that sense is a fantastical abstraction.   There may, as a fact, be very few with a tendency to 'narrow' too much, while many may have a tendency to 'widen.' Many, again, may tend to make *w* labio-dental instead of pure dental, but a counteracting degree of ultra-labialism is not likely, even if conceivable.

The counteracting forces in primitive societies

In pre-literary or pre-educational conditions of society the vocabulary is comparatively small, the recurrence of

any particular word is therefore more frequent, the sound-picture and its reproduction are more likely to be brought into closer relation with the average articulation. Moreover, the language being acquired entirely by the sounds through the ear, with no interference from any impression of a word as read by the eye, there is so much the less danger to homogeneity of pronunciation Important, too, is the consideration that at such a period there are no such things as various strata of society distinguished from each other in their pronunciations through differences of culture. The members of the speech-community are on a level in that respect Their articulation is so far homogeneous, and the resulting sound-pictures are impressed with a more distinct consistency There are thus practically no starting-points for phonetic change, except in the slight aberrations, physical and psychical, of the individual Nor is it to be supposed that any large deviation in pronunciation on the part of an individual would escape criticism and correction in primitive communities The absence of the schoolmaster would be more than compensated by the well-known fondness of barbarians for mockery Excess of individuality and departures from the norm are more strongly resented in early clan-life than in the complex civilisation of populous and extensive societies. The striving to attain to the normal would be even greater within a group of close association than under modern conditions, where the normal is less easily ascertainable, thanks to the wider range of intercourse, and to the social, educational, and local differences marking the individuals within that range We may therefore lay it down that, in the earliest periods, phonetic change in a language over a certain area would proceed only by imperceptible stages, through a series of minute individual deviations of which neither speaker nor hearer was made conscious, but which would nevertheless ultimately involve a shifting of the average articulation in the manner above described. Such a shifting, however gradual, is inevitable.

Growth of dialects and spread of phonetic change :
from individual to group

In tracing the ordinary course of phonetic change we may be allowed to conceive, in the first instance, of a small aggregation of persons whose speech is as nearly as possible homogeneous   There are as yet no dialects of either locality or class.   We may suppose the individuals forming the speech-community over a small geographical area to be in continual and equal communication with each other.   The extremes of phonetic divergence are quite inconsiderable. Moreover, in such a society there naturally exists a close degree of blood-relationship, and therewith, it is to be presumed, a nearer physiological resemblance of the individuals Their vocal capacities are likely to differ less than in large populations of mixed descent   Those conditions of climate and life which exert some influence upon articulation are the same for all, and may be disregarded in our present consideration   In these ideal circumstances the shifting of an average articulation, though it must occur, would proceed only with the slowness of glacier motion

The circumstances, however, are too purely ideal to have ever actually existed.   A community in which there is equal linguistic intercourse between all the individuals belongs only to theory.   If once the area of the common speech extends beyond a single village or camp, it will comprise a number of districts, within each of which communication between the individuals will be close and frequent, while the communication of any of them with the members of another district must be intermittent and may be very rare   Even in a single district special knots and groupings of the units will form themselves, through nearer kinship or neighbourhood or some common sentiment or interest

The smallest instance of such a minor group is the *household*, between whose members linguistic intercourse is doubly effective, inasmuch as it is both earliest and most continuous.   It is still no rare thing to find all the children

of the same family employing with peculiar uniformity some
distinguishing articulation, for which they received the hint
in infancy, which they have accentuated by acting and
reacting on one another, and for which their common
parentage supplies a common predisposition, on either the
physical or the mental side, or both   The average articula-
tion of the household thus forms a rudimentary dialect,
kept in check by the counteracting influence of the average
articulation of the wider group, but itself reacting on that
wider average   The larger the household, the greater its
effect upon the group, an effect made all the more telling
by its solidarity.   But in the household itself the effect of an
individual is often disproportionately large   The 'average'
of the house may be mainly determined by the father, the
mother, the eldest child, or whoever most sets the pattern
for the younger family in general, whether by having most
occasion for imparting the lesson of speech or the greatest
personal impressiveness or 'magnetism' in imparting it.
Hence a peculiarity which was individual may come to
colour the speech of a whole house, and, if the house be
large or its members personally impressive or even loquacious,
some degree of that colour may still further force itself upon
the next larger group in which they play their parts.

If, to take a crude example, the sound $\bar{e}$ ($= a$ in *fate*) tends
in the mouth of A to be corrupted into ai (i.e. nearly the i
in *bite*), and if A linguistically dominates a family, the sound
ai may be so imposed upon the house that its correction by
the wider average is never effected   The household of A
therefore contributes this same ai to the aggregate articula-
tion of the larger group   Should the family be numerous
and its members linguistically much in evidence, the sound
ai is rendered unusually familiar to the group, and must
exercise some influence upon the sound-picture of all in
that environment   Moreover, diseases of language are
highly contagious   The same physical or mental causes
which produced the change of $\bar{e}$ to ai in the mouth of A
are nearly always present in greater or less strength in, say

D, G, K, M, S, or other individuals who come into the
group   One or other of them may be already distinguished
by a similar deviation   Upon these the effect of hearing
the sound with appreciable frequency is to encourage them
in their own natural tendency in the same direction   The
mental sound-picture impressed by the environment is thus
infected with the *əi*-sound, and is therefore not ready to
restrain the vocal organs from the corrupt articulation to
which they naturally incline   Hence the pronunciation *əi*
grows in frequency within the group   If hypothetically we
isolate that group, the path of a phonetic change is clear.
It may chance at last that the sound *əi* exceeds in frequency
the original sound *ē*.   If it is intrinsically an ' easier ' sound,
i e one actually requiring less muscular effort in its produc-
tion, the contagion will rapidly bring about this result.   If
not, its progress will be slower and less certain   In
proportion, however, as the variation comes into greater
use, the older articulation loses its prominence in the sound-
picture, both of the persons already in the environment
and still more of the new generation who come into it
Ultimately it is lost altogether.   The phonetic change
from *ē* to *əi* is thus accomplished, only, in all probability, to
be itself succeeded in due time by another displacement, which
will be gradually effected in the same way for similar causes

It thus appears that a peculiarity of individuals may
possibly be established as a phonetic peculiarity of an *entire
linguistic group*, such as a hamlet or tribal camp.   If the group
is in a large measure isolated from others, the new development
will, of course, be more rapidly accomplished than if the group
is in frequent association with other groups   For the effect of
group on group is similar to, though less than, that of indi-
vidual on individual   Where it does not wholly check, it may
retard or minimise incipient deviations   Thus if the figure

$= \alpha$
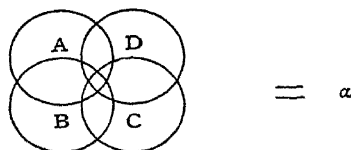
be taken as a crude representation of the linguistic relations within a group (*a*) of households A, B, C, D, the intercourse of *a* with other *groups* β, γ, δ may be correspondingly represented by
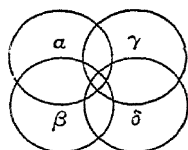
There will be, once more, a certain amount of levelling and averaging within this wider combination, due to the same sort, though not degree, of interaction of its component groups as that which occurred in the case of individuals As with the individual, if the intercourse is comparatively frequent, we shall find on the one hand a counteraction of some of the sectional tendencies, on the other a wider currency gradually acquired by some particularly strong deviation for which the conditions are favourable Often, of course, it is the case that a deviation which originated from natural causes in *a* has, from the same natural causes, meanwhile shown itself to some extent in β, γ, or δ also, and though any one of these groups, if left to itself, would exhibit the peculiarity less markedly than *a*, or even suppress it, there will obviously exist so much wider predisposition to the sound which *a* contributes. Thus if the pronunciation *əi* for *ē* has become peculiarly strong in group *a* in the manner above detailed, then, if group *a* counts for much in respect of influence within the sphere of intercourse, and if predisposition favours the easy acquirement (or encourages the contagiousness) of the sound *əi* among the members of another group, β or γ, or both, the result will be a widening use of that sound, till it becomes general and finally ousts the other from the sound-picture of a new generation.

We may in this way, from a peculiarity marking (1) the speech of the individual (individual dialect) and (2) the speech of his everyday group (minor local dialect), arrive at

(3) a peculiarity marking the speech of associated groups (local dialect proper).

A further step on the same lines is readily conceivable. One district or association of groups may be in linguistic intercourse with other districts, and action and reaction will proceed as before. The intercourse, however, naturally grows less close and continuous as we widen the field, and the forces which either cancel or generalise a sectional peculiarity are slower and feebler in their operation

Distinction between conditions of dialectal growth among primitive and cultured peoples In primitive peoples the groups mostly isolated

Here we must draw a distinction between the ordinary condition of primitive and barbarian peoples and that of modern civilised communities In primitive times it generally happens that groups, either of the larger or smaller kind, are both geographically and socially isolated in a degree unknown to advanced civilisations. A village or tribe, or at least a local federation of tribes, leads its own life, and exercises little communication with others, though linguistically akin. Often it is in actual hostility to them It possesses its own valley and keeps a mountain between itself and its neighbours, or segregates itself behind rivers or other natural barriers The result is the accentuation of local peculiarities, and the absence of any levelling influences beyond the group or association of groups which happens to be included in the tribal union Occasional assemblages of a wider kind for religious purposes, military leagues, etc., may be ignored A language of which the speakers are thus divided soon splits into a number of dialects, which work further and further away from each other, as very different series of new phenomena rise successively within each one and become universalised among its speakers In a rough figure we may give the situation as
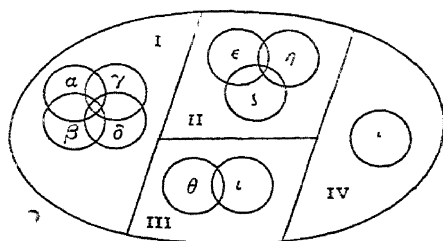
where the divisions I. II III. IV represent dialects formed by isolation as above described, and where the single division may comprise one or several minor groups.

When groups are not isolated there is continuous transition and interlinking of dialects

The above is not, of course, invariably the case In some instances, over a considerable tract of country, there may be, even among barbarians, no distinct severance either by natural barriers or by tribal unfriendliness There will, indeed, always be a series of groupings of individuals with closer intercourse internally, but it is possible that each such group may be in more or less frequent communication with neighbour groups on either side. Thus we may picture a language spoken by divisions intercommunicating, and to a certain extent phonetically interacting, across the border lines indicated in the figure
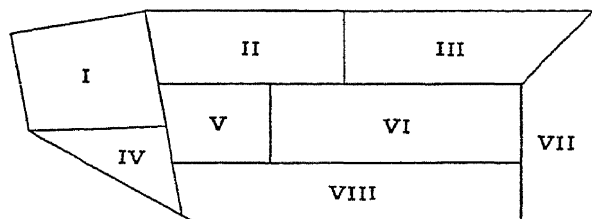
where each of the sections, I. II III. etc, may be taken to represent an area over which internal intercourse is habitual, thanks to the use of some common centre for industrial, religious, or other purposes, or to closer tribal

affinity, or merely to the ' lie of the land ' Over each such region speech becomes comparatively homogeneous , the district possesses a common dialect Nevertheless, if intercourse is free along the borders, a particular section will not develop its peculiar phonetics in entire independence of the effect of the adjoining divisions The speech of section V. must reckon with such interferences with its average articulation as proceed from the influences of sections I II. IV VI VIII. across its borders. Obviously the strength of such influences will be slight as compared with the strength of a tendency operating in the heart of the individual section So far as it is exerted, it will naturally tend to give to each division a phonetic colouring somewhat nearer to that of an immediate neighbour than to that of a remoter district (*e g* III. or VII). It is further obvious that, if the country were inhabited with fair equality throughout, those who dwelt farthest from the centre of each district and nearest to the borders of the next would probably have a somewhat less everyday intercourse with their own centre, and would therefore attain less nearly to the ' average ' of their district On the other hand, they would be in somewhat more frequent contact with the borderers of the neighbouring district, and would so much the more approximate to them We should thus be compelled to readjust the dialectal relations as in the following scheme
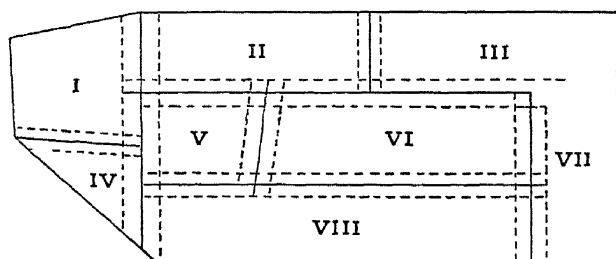
where the dotted lines indicate the continuous overlapping of dialects through districts which are transitional both geographically and linguistically.

Continuous transition in phonetic phenomena

Treating the matter from the point of view of the total *range of a phonetic phenomenon*, rather than from that of the district of intercourse, we may express the same interpenetration of dialects in the following form .—
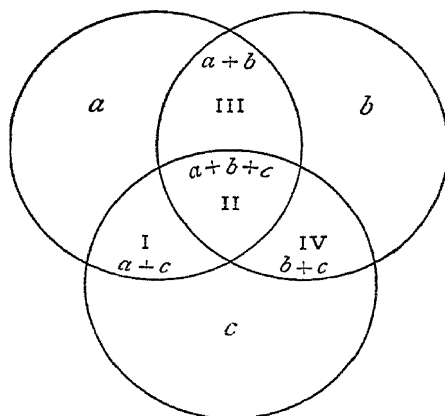
If the three circles represent the areas over which are spread the phonetic phenomena *a*, *b*, *c* respectively, it is implied that the phenomenon *a* will extend over portions of the area occupied also by the phenomena *b* and *c*, and that the case will be the same with *b* and *c*. Thus the area I. will be marked by *a* and *c*, II. by *a*, *b*, and *c*, III. by *a* and *b*, IV. by *b* and *c*. It thus results that, in the ideal circumstances of a speech-domain socially and geographically unbroken, each area of speech is phonetically linked in an equal measure with its neighbours on either side, somewhat after the fashion of the arrangement in chain-mail. Such a domain will therefore normally consist of a series of dialectal areas between which no strong lines of cleavage can be drawn, and which find their closest affinities in their nearest neighbours. In actual experience this is almost exactly the case with the High and Low German-spoken dialects, as they pass from the limits of the South German peoples to the sea-border on

the North, and also with the dialects which extend over the Romance areas of Spain, France, and Italy.

Conditions of phonetic change among cultured peoples change inevitable

Under modern civilised conditions dialectal variations beginning with the peculiarities of individuals are continually springing into existence, and either (as happens in most cases) being suppressed, or else winning their way over small areas, large areas, or the whole linguistic domain. Ease of locomotion and communication, the spread of literature and of education (largely carried on by those who have been born in one district, trained in at least one other, and sent to teach in a third), tend to thwart local developments and to produce a general levelling throughout the community. Where the standard articulation of a people is adequately represented in writing, possible deviations in the sound-picture, due to the idiosyncrasies of local environment, are strongly counteracted by the effect of the word-picture as impressed through the eye by frequent *reading* To attain and preserve absolute homogeneity is out of the question, but the forces which make for that result are certainly more potent than in times when travel was difficult and education rare or absent.

On the other hand, however, there arises, in some languages, and particularly in one with an orthography so inconsistent as the English, a new danger to phonetic stability, springing not from physical but from psychological causes. Education directs the attention of the individual to his own articulation and that of others, and conscious attempts are made to amend pronunciation according to some other standard than that of the average of the environment. In some cases the pronunciation of a certain social class is deliberately imitated, and not always with success. In others there is a deliberate adaptation of

pronunciation to spelling, either because a word-picture has first been impressed on the mind from reading and not from hearing, or else because it is fancied that the usual pronunciation must be wrong because it does not correspond to the orthography, or because it does not seem in logical agreement with cognate words   Thus the modern pronunciations of *tea, oblige, Rome, yellow,* instead of *tē (tay), oblīge (obleege), Rŭm (room), yalla,* are the outcome of what was originally either ignorance, affectation, or some misguided mental operation   The frequent pronunciation of ' again ' as *agane* (*agēn*) is due to the spelling, as is that of *conkwer* for ' conquer '   A particularly obvious case of the spelling affecting pronunciation is that of such words as *herb, hospital,* in which the ' *h*-mute ' has come to be *h*-aspirate.   In the first instance, no doubt, the aspiration began with those who, having the orthographic picture of the word before their minds, were afraid of appearing to ' drop ' the *h*   The occasional pronunciation *knōwledge* (as in ' *know* ') is probably due to a mistaken sense of logical consistency   Languages in which orthography is more strictly phonetic, such as Italian, are not liable to the same interference in any palpable degree, but the effects upon English are already considerable

At a given time, therefore, in an educated country possessed of a common language, we have at work these disintegrating phonetic forces . (i) the perpetual and inevitable cropping-out, now here, now there, of individual peculiarities, mainly of a physical nature, which affect different sounds in different places, and which may chance to exhibit themselves with especial strength at a given period in some particular district, or in more than one district at the same time.   These may be for the most part successfully checked, or at least confined to the special district or districts as dialectal phenomena, but in some cases they will force their way into wide, then general, then universal acceptance . (ii.) psychological operations, under which head may be included phonetic affectations, workings of the analogical

instinct, and adaptations of the sound to the spelling. These arise as sporadically as the physical deviations, but are less likely to be confined to a special area   Rather they spread first through a social class.   These are more deliberate, and therefore persisted in, and, thanks to the similar workings of men's minds, are more highly contagious.

It is impossible that these forces should in all cases fail to make abiding impressions on the general language, that, in every single instance and form in which they are exerted, the 'average articulation' should still remain unaffected by them   There seldom arises strongly in any one quarter a peculiarity which does not appear sporadically in other quarters, or for which there is not a frequent predisposition   Pronunciation is therefore necessarily, to use the expression of Heracleitus, "in a state of flux," however gradual and indefinable may be the displacement in a given generation

Phonetic change rarely confined to one sound at a time

Hitherto we have treated the inevitable growth of dialect and the spread of phonetic change as proceeding in regard to one particular sound (*e g* of *ē* to *əi*).   It must, however, be obvious that not one, but a number of different sounds may be affected, either simultaneously in the same quarter, or simultaneously in different quarters, or at successive periods in either the same or different quarters   Thus a 'Cockney' change of *ē* to *əi* may chance to be simultaneous with a shifting of *ă* (as in *bank*) to *ĕ* (i e *benk*), or of *ā* (= *ah* as in *laugh*) to the sound represented in *lawf*   Some such further deviations may easily occur within one and the same region, since it is very improbable that a marked displacement of one vowel-sound (no matter whether it be due to physical difficulty or to indolence or to affectation) should be accompanied in the same mouths by rigorous exactness in the articulation of every one of the rest.   The old English

vowel $\bar{a}$ ($= ah$) has become $\bar{o}$ in the modern speech, but similarly $\bar{e}$, $\bar{\imath}$, $\bar{o}$, $\bar{u}$ (i.e. *ay*, *ee*, *o*, *oo*) have become respectively $\bar{\imath}$, $\partial\imath$, $\bar{u}$, $a\underaccent{}{u}$ (i e *ee*, $\bar{\imath}$, *oo*, *ow* as pronounced in present-day English)

Few of the sounds in a given language will be left without occasional deviations of the physical kind above discussed, most of them will tend to some sort of corruption at some time or times in some place or places   The probabilities are that, for this reason alone, a dialect will be marked by more than one peculiarity, and that several phonetic changes will be making progress in a language at the same time, though in different stages of their development and with different degrees of rapidity

Moreover, sounds are often so related in place or kind of articulation that a physical difficulty in regard to one implies a certain amount of difficulty in regard to others in the same class   The deviation may be concerned with a particular *place* in the vocal passage at which the articulation is to be effected.   Thus in the series of dentals including the stops *t*, *d*, the interdental spirants þ, ð, and the dental spirants *s*, *š*, *z*, *ž*, it is not likely that a shifting of one of these, due to some embarrassment at the place, will be altogether dissociated from conditions influencing the production of one or other of the rest.   Or the difficulty may be concerned with a particular *kind* of articulation, for instance, with that of a liquid, of a spirant, or of an aspirate.   The causes which tend to a deviation in the case of one in the series are naturally such as will in some way affect another   If *th* (i e *t*-aspirate, not þ or ð) is a sound uncongenial to a certain organisation, it is probable that other aspirated stops, *ph*, *kh*, *dh*, etc., will also be uncongenial, though not necessarily in the same degree.   In Greek the sounds θ (*th*), ϕ (*ph*), χ (*kh*) have all undergone modification from aspirated stops to spirants

Again, it must be remembered that in language proper single sounds are not articulated independently, but in combination with others, and that the sounds which are uttered

in one breath-group (*i e.* with one impulse of air) are linked to each other in very subtle ways by 'glides,' which vary in their nature with every change in the sounds which they link. Hence a change of one sound in such a breath-group may induce a change in another sound of that group, not because of any difficulty in regard to the latter sound in itself, but because in this particular conjunction it becomes less congenial than some other. If, for example, a vowel between two consonants is so much slurred in a hasty or careless pronunciation that it finally disappears, the syncopation of the syllable may bring together two consonants which are phonetically incompatible, and a certain amount of assimilation may take place in one or both Similarly the nonarticulation of a consonant may bring together two vowels which may therefore need a certain mutual readjustment.

Finally, it seems possible to detect the influence of unconscious psychological operations, which cause one displacement to be followed by others throughout a series It seems hardly probable that the wholesale shifting of the long vowels in English, *bāt* to *boat*, *fēt* to *feet*, *mȳs* to *mice*, *bōt* to *boot*, *mūs* to *mouse*, should have been brought about simply by physical causes, inasmuch as there is no avoidance of the several vowel-sounds as such, but only a progressive transposition of them It would appear that when, among the series of sound-pictures existing in the mind, one was displaced, there followed a quite unconscious rearrangement of the others relating to the new sound The shifting of Teutonic stop-sounds, known as the working of Grimm's Law (*Lautverschiebung*), appears to owe something at least to the same psychological influence

That dialectal variation or general phonetic change should be confined to one particular sound is therefore not merely contrary to experience, but also unlikely *a priori*.

Fortuitous agreement of widely separated dialects in some particular sound-change

Since the sound-changes occurring within one dialectal area may come to be more or less numerous, while at the same time other series of more or less numerous changes are proceeding in other areas, it may easily be the case that two such areas, between which for geographical reasons there is little or no direct communication, may accidentally and independently agree in one or more of the changes which they produce, however widely they may differ in the rest. We may imagine, for example, that over a district (I) at the Western extremity of the whole speech-domain there is among other physical tendencies which become habits, a habit of turning the palatal guttural *ǩ* into a spirant *č* before certain vowel-sounds It is readily conceivable that the same tendency may, for identical reasons, develop itself and become an established habit in a district (VIII.) on the Eastern borders. That particular sound-change might, therefore, be a mark of both dialects, while their other changes might show no such coincidences Similarly a dialect (II) on one side of the speech-domain may regularly change *ŏ* into *ă*, while precisely the same change is in progress in a dialect (VIII) on the other side Meanwhile, dialect II. may preserve *ĕ* as *ĕ*, whereas dialect VIII transforms this also to *ă* Generally speaking, of course, any two areas which join or interpenetrate each other will exhibit more points of agreement than two which are more remote, simply because of their interaction as already described. Nevertheless we must not overlook the possibility of even a considerable number of fortuitous coincidences between two dialects in the case of which there is no longer phonetic interaction. If, therefore, the list of deviations occurring in various parts of a whole speech-domain be represented by *a, b, c, d, e, f,* etc , and the several dialects by A, B, C, D, E, etc., it may be the case that A is marked by the peculiarities *a, c, d, h,* B by *b,*

c, d, f, C by *c, d, e, k,* but D by *a, e, k, l,* and E by *b, c, g, h,* as in the figure.
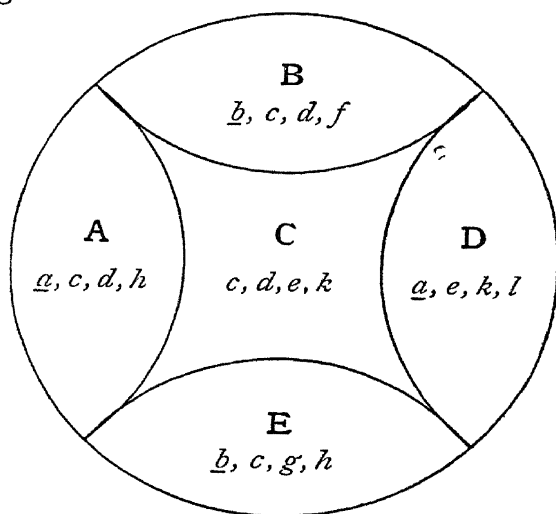
It is therefore not safe to conclude that, when two languages derived from a common ancestor coincide in a given phonetic practice, they are necessarily descended from dialects which once adjoined each other in the original speech-domain. Such an inference must be based upon more ample data, and can grow into a fair hypothesis only in proportion as the coincidences become either specially numerous or specially striking.

Summary of the above considerations

It has thus far been shown how phonetic changes begin with the individual, how they spread or are checked, and how, if not checked, they may establish themselves as dialectal varieties   The forces producing and counteracting change have been examined both for educated and uneducated societies   The *a priori* impossibility of a complete counteraction in all instances has been demonstrated.   The ordinary case of a geographically or socially interrupted speech-domain has been set against the ideal case of one in which intercourse is evenly distributed.   In the former, lines

of cleavage soon grow distinct   In the latter, it has been shown how dialects are naturally interlinked, so that each is transitional to its neighbours on either side   It has been observed that, not one, but a series of sound-changes must be expected in a dialect, and that there may occur entirely chance agreements᾿ in special phenomena between dialects occupying areas remote from each other.

It remains to contemplate the further phonetic divergences which may cause the dialects to become mutually unintelligible, or, in other words, distinct languages.   Divergences in grammar and vocabulary, of course, proceed along with these, but for theoretical purposes must be treated separately.

Effects of neighbouring aliens

We have hitherto spoken of the total linguistic area as if it were isolated from any influence of entirely alien speeches surrounding it   Its dialects have been treated simply in relation to each other, and some degree of cohesion and geographical continuity of the groups has been assumed. In historical experience, however, the state of things is ordinarily otherwise.   To begin with, the speakers along the frontiers of any extensive speech-area usually come into some sort of contact or collision, and frequently into some measure of intermixture, with speakers belonging to adjoining domains occupied by alien tongues   The latter often possess phonetics of a character very different from those prevailing in the domain with which we are specially concerned.   Thus it may happen that, at and about the points A, B, C, D on the borders of the area
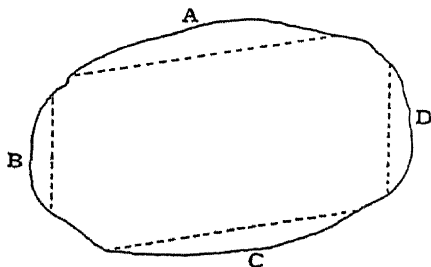
there may be situated neighbours whose languages are altogether unrelated either with the tongue enclosed or with each other. One of these (A) may be distinguished by an abundance of palatal sounds, another (B) by a fondness for strong aspirations, the third (C) by a dislike of spirants, the fourth (D) by an absence of aspirates. Add to these the possible peculiarities of stress and pitch accent, of rapid or drawling pronunciation, or of nasalisation, which may be variously represented in these various quarters. Any continued intercourse, such as usually takes place where natural barriers do not exist, between the people within and those beyond the speech frontier, will result in a certain interference with the phonetics of both parties, and the outlying dialects will tend to move away from those in the centre for reasons unfelt by the latter. Where English borders on Welsh it takes a kindred phonetic colouring, and in South Africa the Hottentot 'clicks' have in some cases proved contagious to adjoining speakers of the Bantu languages

Effects of complete geographical separation, by natural
expansion or by specific migration, etc

We may next suppose the geographical, and consequently the social, continuity of the dialects to be broken up. This may occur through a natural expansion of population and an outward movement (which proceeds either like a wave spreading gradually on all sides, or else by specific migrations of particular portions of the linguistic body), or else through the invasion of aliens, who may wedge themselves in between larger or smaller sections. In the first case, that of simple expansion, territories will come to be occupied which are separated from each other by mountain ranges, rivers, seas, or other natural partitions, and the peoples occupying such territories will be practically cut off from communication with the rest, and will be left to develop their phonetic and other idiosyncrasies without further appreciable counteraction from cognate dialects.

When special bodies migrate, whether for conquest or under external pressure, or simply in a nomadic quest for pastures new, the same result will occur, but the more readily, inasmuch as such bodies are likely to be carried into a complete isolation from their linguistic kin It must, however, be added that such a specific migration need not be made by a population speaking merely a single dialect It may consist of a number of detachments drawn from various dialects, which may be brought into a closer intercourse in the new quarters and so produce a new phonetic 'averaging' there This was the case with the tribes of Angles, Saxons, Jutes, and Frisians in England Nevertheless, generally speaking, such migrations will naturally be those of a population occupying a particular tract of territory, intercommunicating and therefore mostly speaking dialects which are closely cognate, if not the same

Where the inwedging of an alien stock takes place, the consequence will obviously be much the same Such interwedging and splitting apart appear historically in the experience undergone by the Celtic languages in Great Britain and by the Finno-Ugric tongues in Russia, in the position of Magyar in Central Europe, and in the case of the earlier or Dravidian tongues of Hindustan, among which Brahui is sundered from the languages of the Deccan by speeches which are Indo-European Each of the other forms of displacement is also historically demonstrable. Among striking instances of specific migration it is easy to recall that of the Celts from Gaul into Asia Minor in 280 B C., which left a Celtic language in Galatia for at least seven hundred years ; that of the Goths into Moesia ; and that of the Anglo-Saxon dialects into Great Britain and subsequently into North America and Australasia

In whatever way geographical dissociation is effected, the result is the same in kind. The cessation of intercourse with cognate dialects causes an accentuation of the phonetic peculiarities with which a given division begins its separate existence. Each such separated division will also continue

to develop new dialectal peculiarities within itself, in pre-cisely the same way in which such phenomena arose in the primitive linguistic community   These will contribute perpetually to the formation of the ever-shifting 'average articulation' of that division   In the multiplicity of phonetic innovations which continually struggle for existence the chances are that, while one set is establishing itself in this division, an almost, if not entirely, different set will be establishing itself in the other cognate divisions.   Add these accumulating deviations to the now unfettered play of the original phonetic tendency which marked each division while it was but a local dialect of the older area, and the com-plete phonetic divergence of the several divisions to the point of mutual unintelligibility is only a matter of time

Effects of climate and manner of life

It is easy to overstate the effects which climate and manner of life exert upon speech   Nevertheless these supply a factor which cannot be ignored.   Mr Sweet observes that in cold countries there is less disposition to open the mouth wide, and he offers this fact as an explanation of the Germanic tendency to substitute $\bar{o}$ for $\bar{a}$ The extent to which the front sounds, labials and dentals, may prevail over the back sounds, such as the gutturals, or the open sounds over the close sounds, or *vice versa*, may be in no inconsiderable measure determined by atmospheric conditions.   These affect the speaker in his employment of the breath-stream which forms the raw material of speech.   They affect also to some extent the constitution, or at least the flexibility, of the speech-organs themselves   It follows therefore that partialities for certain sounds, or certain degrees of ease and precision in delivering them, may (in the case of the posterity of the migrating bodies) depend on such considerations as whether, displacement has been northwards or southwards, towards the sea or the mountains   They may also depend in some slight measure, which is not ascertainable, and which can

only be hinted at, upon the question of diet and of the physical practices and material environment of life. Further elaboration on these points might become fanciful

Effects of mixture with alien peoples

Of much more importance is it to observe that a population which either expands or migrates is not likely to find unoccupied the ground upon which it trespasses. Other peoples with other languages are already in possession of the field Sometimes these are gradually driven forwards, either to infringe on yet others or else to make a last stand in the corners, the promontories or mountains, beyond which further movement is barred The British 'Iberians' have fared in this way at the hands of the Celts, and the latter at the hands of the Anglo-Saxons At other times, when their numbers are very great, and an onward movement is impossible, they remain as the staple population of the territory in question, perhaps admitting the newcomers as their conquerors, but gradually absorbing them more or less completely into their own stock. In the latter case, the newcomers may either succeed in imposing their own language, as with the Aryans in Northern India, or they may be insufficiently numerous or otherwise influential to do so. The *lingua romana* of Gaul was but little affected by the invasion and reign of the German Franks, nor did the *lingua romana* of Spain yield appreciably to the Teutonic of the Visigoths and Vandals. The failure of Norman French in England was less utter, but sufficiently decisive. Even the Arabic of the powerful and cultivated Moors, which had been imposed upon all Northern Africa, failed in Spain. Obviously if the language of the intruders loses itself in the pre-existing local speech, we are here no further concerned with it. If, on the other hand, it overcomes the native tongue and establishes itself throughout the mixed population, it will not accomplish its conquest without marked effects upon itself. So long as the invaders keep to them-

selves, in the sense of forming a pure caste in the midst of an alien people and language, their speech will be affected but slightly by their new conditions   Yet it will be affected somewhat.   Certain novel articulations used by the surrounding natives will gradually become familiar to the ear and will leave some effect on the sound-picture, particularly of children born into the new environment   The passage from frequent hearing of a vocal trick, especially when of a peculiar description, to some measure of unconscious imitation of it, is readily conceivable   Moreover, a certain amount of intercourse of an official and industrial kind is inevitable, even where there is none of a social character. Some practical familiarity with the native vernacular must therefore become frequent, and will contribute something to new phonetic tendencies in the invading tongue.   We must not, of course, exaggerate the effect of such conditions , on the other hand, they cannot scientifically be ignored

Impulses to phonetic change are supplied much more emphatically when the two peoples have settled down to a common life, with intermarriage and free social intercourse in all or most departments.   While the invading language is asserting its supremacy there is obviously a transition-period, which may occupy several generations or even centuries, and during which both adults and (what is much more important) children are of necessity subjected to the phonetic influences of the native speech, which is still widely prevalent in every settlement   Many persons will speak both tongues, often with a disregard of niceties of articulation.   Others will speak one of the languages fluently, as being that of closer association, while the other they will use in a more or less broken manner, employing its words with phonetic peculiarities of their own   Often in the same house the elders will be familiar only with the one language, while the younger members may be rather more familiar with the other.   Apart from the intermixture of races, which produces by way of heredity physiological effects which we cannot exactly specify, a considerable modification of phonetics

must manifestly result during this period   The invading
language cannot fail to borrow during the struggle some-
thing from the more salient idiosyncrasies of the invaded.
The struggle between the native Celtic and the Latin lasted
in Gaul till at least the fifth century A D , and the phonetic
character of the resulting *lingua romana* is largely the out-
come of the Celtic habit and tendency.   In the same way
the distinctive palatal and cacuminal sounds of the Sanskrit
and modern Hindu languages are the result of the transition
period of conflict with the Dravidian speeches and of
mixture with the Dravidian races   English as spoken by
Irishmen or by Highlanders frequently bears manifest
traces of the phonetic modification undergone during the
collision with the Celtic tongues in Ireland and Scotland
respectively

We have so far spoken of one imaginary separated dialect
of our imaginary primitive tongue as if it were the invader
It may, on the contrary, be the invaded, in the sense in
which Anglo-Saxon English was invaded by Norman French,
or Persian by Arabic.   In this case any phonetic modifica-
tion which it may undergo will be due to the same social
causes as those above described, and the extent of the
modification will depend upon the numbers and other
conditions of influence of the speakers of the invading
tongue.   Even when the latter is routed, a long and well-
sustained conflict will leave its mark upon the language
which has successfully resisted   Chiefly, no doubt, the
evidence will lie in the vocabulary, but it will also exist,
even if less clearly, in the phonetics

There is, it must be added, a linguistic invasion of yet
another kind.   When a language is in full occupation of a
certain area, the population speaking that language may (as
in the case of the United States of America) receive large
influxes of persons speaking alien tongues   The several
speeches of the immigrants will doubtless generally disappear
with the second generation, but, inasmuch as the ' average

articulation' is determined by the contributions of the constituent individuals, it will be inevitable that the large amount of misarticulated or broken or totally foreign utterance which will make itself heard, will exercise some effect upon the average articulation of the whole

Recapitulation

In order that we may now take a survey of the wood without having our view impeded by the trees, we may briefly recapitulate the phenomena of phonetic change, and the steps and conditions of the phonetic disintegration of an imaginary homogeneous speech

1. Phonetic aberrations of the individual

In non-educated societies *due* mostly to physical causes, resulting in

Inaccuracy of the sound-picture through the ear, and

Inaccuracy of its reproduction by the voice

(In educated societies often due also to psychological causes, *e g* adaptation to spelling, real or fancied etymological association, etc.)

Mostly *counteracted* by the influences of immediate environment

Through spontaneous correction of the sound-picture ,

Through ridicule ,

Through education

Sometimes incapable of correction ; seldom wholly eliminated

The persistent cases and the residuum of individual tendencies contribute to the average articulation of the environment and insensibly modify it.

(The influence of the individual is particularly potent

When the same tendency exists in others ;

When his personality counts for much.)

2. **Phonetic aberrations of a group of close inter-course**

> The *result* of the interaction of the individual aberrations and the establishment of some of them.
>
> Largely *counteracted* by the influence of other groups which intersect , seldom wholly cancelled.
>
> The persistent cases contribute to the average articulation of the larger environment and insensibly modify it
>
> (The influence of such a circle is specially potent
>> When the group for any reason counts for much relatively to the environment ,
>> When (in educated societies) it is a learned group or one in high social place.)

3. **Phonetic aberrations of a special area or district, with internal intercourse habitual and external only occasional (= a dialect)**

> The *result* of the interaction of the deviations of the groups comprised
>> (Sometimes also of phonetic influences of neighbours of alien speech)
>
> In non-educated societies only slightly *checked* by the occasional influences of neighbouring dialectal areas.
>
> (In educated societies artificially checked to some extent by the same influences and also by instruction)
>
> The distinctive peculiarities are more marked at the centre of each district, less so on the borders
>
> When there is no geographical break, the dialects are phonetically interlinked according to actual proximity
>
> (Yet remote dialects may accidentally agree in special phenomena.)

When a dialect is geographically isolated the peculiarities become fixed and accentuated

(The changes are seldom confined to one sound at a time)

4. **Further phonetic aberrations of a dialect (or association of dialects) when separated from the rest (= growth to a distinct language)**

The *result* of a now entirely free play of inherited tendencies and a free development of new ones ; together with

Influence of intermixture with people of alien tongues in the new home, whether by ' invading ' them or being ' invaded ' by them ,

Influence of climatic conditions and conditions of life.

CHAPTER XIII

PHONETIC LAWS   'GRIMM'S LAW'

HE last chapter has discussed phonetic change and its
natural causes   It should now be evident that no nation, or
large area of a nation, can show at any moment an absolutely
uniform and consistent articulation of the sounds which
compose its language   There must be at all times a state
of instability   Theoretically, no doubt, an educated linguistic
community possesses, at a given date, a standard articula-
tion of each sonant and consonant in each word, although
experience shows that the said standard is by no means
always discoverable with ease   For example, even professed
phoneticists will sometimes allege that in English words
like *hard* or *cork* the *r* is entirely unheard, and that the pro-
nunciation is *hahd, cawk*   Others are no less certain that
the *r*, though not trilled, is distinctly audible from speakers
of ordinary care   The tongue, they maintain, does adopt
the usual English *r*-position as part of the articulation of
ard or *cork*   Such disagreement is due partly to difference
of ear, partly to actual difference of practice.   The only
point of certainty in the matter is that the articulation of
the *r* is weak.   Nevertheless, despite occasional diversity of
opinion, we may accept as approximately true the statement
that, at a particular date, there is a standard or orthodox
articulation such as is registered in the dictionaries.   Yet we
have also to admit that there are few persons who do not
deviate more or less widely from the standard, and that there
is probably no one who adheres to it in all particulars.

Moreover, "all things are in a condition of flux," said Heracleitus , and a language is anything but an exception. It never stands still, whether in grammar, vocabulary, or articulation.   Even the theoretical standard of one generation is not precisely the standard of the next

This being the case, it becomes necessary to employ with great caution the much-abused expression 'Phonetic Law.' The term first requires some explanation   In philological works much is inevitably said of 'the phonetic laws' of Latin, Greek, English, or other languages. We hear, for example, of the following phonetic law of Greek.   Whenever a simple *s* stood between two vowels in a word of the parent Indo-European tongue (as in **ğenesos*), if such a word passed by direct inheritance into the Greek language, the *s* in question first became *h* and then disappeared (the result thus being *geneos*, γένεος).   So far as purely phonetic operations go, the statement, thus worded, is correct   Any apparent violation of this particular 'law' is for the most part easily explainable from considerations which are psychological, and have nothing to do with vocal tendencies.   The meaning of this will be made clear when we deal with 'Analogy'

Meanwhile it is stated as a phonetic law of Latin that the same *s* in the same circumstances will, if the word passes by direct inheritance into the Latin language, become *r* Thus **ğenesos* will properly become, not *geneos*, as in Greek, but †*generus*.[1] Again, any apparent breach of this law is either not an exception or is explained by certain mental, and not vocal, tendencies of the Latin speech.

For English a phonetic law is laid down that, where an original Indo-European word or root began with the sound *t*, the same word or root, if directly inherited by the English language, will begin with the sound *th*   Thus for the original **treies* English will properly offer *three*.

The above phonetic laws have been selected for their simplicity and regularity.   It will be observed that each

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[1] The actual Latin genitive *generis* is from an alternative original **ğeneses*.

refers to a whole language, Greek, Latin, or English, as the case may be, and comprehends all its dialects. Each is a statement concerning the treatment of a particular sound in a particular situation, and each is confined to a change which has occurred during the direct passing on of a word from father to son in a given branch of the Ursprache.

Now at the date when we first meet with the Greek language the loss of *s* between two vowels has already been fully effected. Similarly the Teutonic substitution of *th* for *t* had been accomplished centuries before English is met with as English. But there must have been an epoch, probably extending over several generations, during which the change in either instance was gradually prevailing. In the case of Old Latin we are able to see something of such an epoch, for, when we get our first glimpses of that language, a number of words which were afterwards pronounced with *r* (as *arborem, lares*) are still written with *s* (*arbosem, lases*), although doubtless the pronunciation intended was *z*, the intermediate step.

If we could have watched these several periods of transition, we should have seen certain early speakers of Greek differing among themselves in their treatment of the intervocalic *s*, and certain early speakers of Teutonic differing in their treatment of initial *t*. At those periods we might speak of a growing phonetic tendency, but not of a phonetic law, in these respects. How long it took for the Indo-European **genesos* to become in the whole Hellenic branch (first †*genehos* and then) *geneos* we cannot ascertain. The phonetic law is simply a statement of the change as a completed phenomenon.

Within any language, as has been shown above, dialects are continually endeavouring to form themselves from special phonetic tendencies. Sometimes these threatened developments are entirely thwarted or rendered inconsiderable. Sometimes they persist and become conspicuous over an area more or less extensive. Sometimes one of them will gradually prevail over the whole area of the language. It is

obvious therefore that there are abortive phonetic tendencies, locally successful tendencies, and complete phonetic victories. A phenomenon arises, and either perishes, or wins a district, or conquers the whole language. The history of a given tongue on its phonetic side is a history of these unceasing efforts and partial or complete victories. A locally successful tendency becomes a 'phonetic law' for the local dialect ; a 'phonetic law of the language' is the wider result of a tendency which has won the day over the entire field Manifestly, however, such phonetic results are liable to further variation in process of time We may register the phenomena of a language at a particular date, and record the phonetic laws which are valid for that date, but we must not expect these, when once established, to remain unaffected for ever. It may be a Teutonic phonetic law that Indo-European *g* passes to *k*, and all the Teutonic languages may have obeyed that rule of change, but there is nothing to prevent the *k* itself from passing on subsequently to *ch* (*tš*), as, for example, when *teg becomes *thak* but then passes outward to *thatch*

As a definition of a phonetic law of a language we may attempt the following. *A phonetic law of a language is a statement of the regular practice of that language at a particular time in regard to the treatment of a particular sound or group of sounds in a particular setting* The several parts of this definition demand separate consideration

A phonetic law, it will be seen, is simply the statement of an observed phenomenon This is a different thing from asserting that some indefeasible natural condition has made such and such a change inevitable with such and such a people Nothing is asserted as to any 'law of nature' absolutely compelling a certain set of speakers to follow a certain articulation and no other A strong propensity of a considerable number at a certain date is often sufficient to determine the fate of a whole language , there may also be psychological and social conditions, possibly transitory, but

in any case much too complicated to unravel. An examination of the history of a language simply happens to prove that it has shown a conspicuous regularity in the treatment of a certain sound or group of sounds. It might therefore be conveniently stated that such regular treatment is a phonetic 'rule' of the language. 'Law,' however, properly implies stringency of application, and the word has been deliberately employed with that intention. That school of philologists which most uses the term maintains that there are no real exceptions to the phonetic laws of a given language , that, if a language comes habitually to pronounce a certain sound in some new way, it will always and invariably so affect that sound ; that exceptions are only apparent, being borrowed words, dialectal words, or archaic survivals and revivals, or words diverted from their expected shape by some instinct of analogy, or otherwise to be accounted for. With this position we shall deal briefly in a later paragraph. Meanwhile all philologists alike mean by 'a phonetic law' simply the statement of a regular phonetic practice, however their opinions may differ as to the exact degree of the regularity.

In the next place, a phonetic law properly refers only to a particular time A language which has established a regular phonetic practice at a certain epoch of its development, may proceed to a modification of that practice by reason of a new tendency Or, again, a language in which, at a certain epoch, a certain phonetic tendency has been conspicuous and has triumphed, may at a later epoch show no such tendency

Thus, to take the former case, it is a phonetic law of Teutonic, including early English, that an original Indo-European *g* shall become *k* For a primitive **teg* Old English therefore gives *thak*, for **ɥeg* it gives *wak*. But, since the period of Old English, the language has developed a new tendency—though not consistently exhibited—to 'palatalise' a final *k* into the sound phonetically written as *tš*, but currently as *ch* or *tch*. Hence modern English says

thatch and *watch*   It is not to the purpose at this point to discuss with what dialect this change began or what causes have prevented its regularity   The fact remains that when we speak of 'a phonetic law of English' affecting the primitive *g* in question, we must be careful to distinguish the period to which the law strictly applies „from the period for which it must be stated with a subsequent modification.

Again, to take the second case   In an early stage of the Greek language, before the date at which we meet with it in history, the tendency of the speakers of that tongue had been to convert *s* between two vowels, first into *h*, and then to drop that sound completely out of use.   Thus **ḡenesos* became †*ḡenehos* and thence *geneos*   This tendency so completely triumphed that it had become a phonetic law for the Greeks in an epoch long before Homer   Nevertheless when, in after generations, the other corruptions of sounds in Greek words had accidentally produced new cases of the sound *s* standing between two vowels (*e g* in *mousa*, which is not an early Indo-European form but a corruption of **montʒa*, or in *basis*, which is not an early Indo-European form but a corruption of †*batis*), there no longer existed any particular tendency to convert these into *h* and then to drop them   Words containing an intervocalic *s* thus became very numerous, but this *s*——called 'hysterogen,' as being of later birth——remained undisturbed   The case may be stated thus ·——

Epoch 1	*Epoch* 2	*Epoch* 3
(I -E original)	(Period of phonetic tendency affecting intervocalic *s* in Greek)	(Later Greek period (tendency expired))
*ḡenesos >	†*ḡenehos, geneos*	> *geneos*
When I -E did not contain *s* { **montʒa* > / **medhʒos* >	†*monsa* } *s* does not yet stand between vowels / *messos* }	> *mousa* } tendency to lose *s* has / > *mesos* } expired

So in the instance of the English *watch*, *thatch*, and the like, the history may be thus expressed ——

1	2	3
Indo-European	*Early Teutonic*	*Modern English*
	(including Old English)	(further development)
*teg	*thak*	*thatch*
*ꭒeg	*wak*	*watch*

A phonetic law further applies to a sound or group of sounds only when situated in particular settings   The fact that a language at a given epoch habitually converts, say a *t* into *th*, in most positions, does not necessarily imply that it so converts a *t* in each and every position. It may, for instance, retain the *t* unchanged when it is combined with a preceding *s*.   That is to say, a rule which applies to *t* in most, or even all other, positions, may not apply to *t* in the special combination *st*   Thus in English the Indo-European **treꝫes* becomes *three*, and the Indo-European **pet-* produces *feath-(er)*.   Yet the Indo-European **stā-* becomes *sta-(nd')*   If these were (as they are not) the only facts to be considered concerning *t*, the phonetic law might be stated thus   'Indo-European *t* becomes in English *th*, except in the combination *st*, where *t* is unchanged'   But it would manifestly be inaccurate to lay down as a phonetic law simply that '*t* becomes *th*'

A phonetic law, then, must be understood to belong to a particular period and to a sound particularly placed.   Is it to be assumed that, for such period and such sound, the law will be without exceptions in the language concerned ? Before answering, it is necessary to consider again what naturally constitutes 'the language'   The point has already been elaborated that, in the case of any living tongue spoken naturally over an appreciable area, there have been dialects. Doubtless the language, conventionally recognised as such, is generally the outcome of one of these, and, for the most part, of one which is fairly central and the nearest approach to a compromise between the rest   Thus English is mainly developed from the language of the East and South-East

Midlands, French from that of the Île de France, Spanish from Castilian, Italian from Tuscan, Greek from Attic. Gradually such dialect absorbs into its sphere the speakers of the other dialects, while these drop into *patois* or slowly disappear Yet, even if the conventional language is mainly the outcome of a single dialect quite consistently spoken (which, in truth, it seldom is), it will be impossible but that words and pronunciations of the subordinate dialects should gain some foothold in it Later English thus contained words and sounds of the South and the North which were alien to the tendency of the Midlands, even if we assume that tendency itself to have been homogeneous Similarly the basis of Latin was the dialect of a portion of the plain of Latium , but as the surrounding tribes, particularly the Sabines, were drawn into the social and linguistic area, the language came to contain many words in which the sounds conflicted with the purely Latin tendency

If, therefore, we take such a language as it is actually spoken at a given time, we shall for this reason seldom succeed in proving that all its phonetic phenomena are strictly obedient to the rules There will be inconsistencies and re-calcitrant words The philological specialist may perhaps be able to disentangle the 'pure' Mercian or 'pure' Latin words from the dialectal, but, truth to tell, his method is apt to be the somewhat illogical one of laying down a phonetic law for Mercian or for Latin and then relegating to the subsidiary dialects all such words as contain exceptions. It is, doubt-less, highly probable that the words so relegated were for the most part actually introduced from the dialects in question , but it is by no means disproved that a real vacillation and inconsistency of pronunciation, no longer to be accounted for, may have occurred in the case of the same sound in different words. Much might depend on the frequency with which one word was used as compared with another, or on the classes of persons by whom it was used. The fact must always be remembered that new tendencies are continually arising, and that, though one of these may not

prevail in the case of all words, it may so prevail in the case of some special word, perhaps a word of the populace taken up by the orthodox speech   Thus an original Indo-European diphthong *ai* becomes in orthodox Latin *ae*.   The popular tendency, long resisted by the orthodox style, substituted *ē*   *Caecilius* and *Cēcilius* were thus heard side by side   On the other hand, *lēvir* (not *laever*) is the only form recorded for that word.   Until the *ē* finally triumphed it is therefore hardly scientific to assert an 'invariable' phonetic law of Latin in respect of the primitive *ai*   Again, it is a phonetic law of Latin that an original *gh* (initial) becomes *h.*   Thus the primitive *ğhans* (Greek χήν, Germ *Gans*, Eng *goose*) should be represented in Latin by *hans(er)*.   In reality only *anser* is found.   The tendency to omit *h* from pronunciation occurred early among the Latin populace, but literature also says only *anser*   If we call this a 'dialect word,' we are using the term 'dialect' somewhat freely

There is no intention here to impugn the view that phonetic laws do operate with very great and remarkable regularity , but it seems well to utter a warning against a too stubborn *a priori* position that, when borrowed words—whether taken from a dialect or from a foreign language—are eliminated, the rest will be found to offer no exceptions whatever of a purely phonetic kind.   This is to assume greater homogeneity on the part of a multitude than is known to be the case with an individual.   Experience proves that it is quite unwarrantable to assume (as is commonly assumed) that an individual who habitually pronounces, say, *broad* as *brōde*, will always and inevitably so pronounce an *aw-* sound as *ō*.   He will not necessarily say *cōse* for *cause.* The human being is more than a machine, and is subject to many casual influences, partly from changing environment, partly from subtle operations of his own mind.   The Elizabethans spelt their own names in various ways at various moments, and at the present day the same documents will often show in the same handwriting different shapes of the same letters.   There is something of the kind in articula-

tion, as anyone may discern who carefully observes the speech of an acquaintance   Ac'd to these considerations the subtle psychological influences which we can never hope to track. Of absolute inability to produce a given sound there is comparatively little ; the chief cause of corruption is unchecked laxity or indifference.   But it is by no means a fact that one who generally follows the line of least resistance will necessarily do so in every instance.

And, if this is the case with the individual, it is assuredly not less so with that shifting aggregate of classes and individuals whose averaged speech is the language of a country or a linguistic area   It has already been shown how complex are the interworkings of individuals and dialects, and it appears an excess of boldness to maintain that all these interworkings will always end in full consistency of phonetic result.

It is doubtless often possible to prove that the apparent exception to the law in a certain word is due to the fact that the word is borrowed from another language, or from a special dialect which does not obey the law   *Deck* (properly ' covering ') is borrowed from the shipping folk of the opposite Teutonic coast , the English form is *thak*.   *Popīna*, the Latin for ' cook-shop,' is an Oscan word from Campania , the proper Latin form is *coquīna.*   Often such borrowing may be suspected, where it cannot be proved.

Sometimes, again, it can be shown, or plausibly maintained, that the phonetic law is counteracted by the influence of an ' association of ideas ' or ' analogy '   Thus in Greek ἔστησα (*estēsa*) should have become ἔστηα (*estēa*), since the *s* stood from earliest times between two vowels, and should therefore have disappeared in Greek   But ἔστησα is a verb-tense (' I placed '), in which *s* regularly played a part similar to that of the English *-ed*.   Thus ἔδειξα (*edeiksa*) ' I showed,' ἔτυψα (*etupsa*) ' I struck '   In these words *s* is not lost, because it does not stand between two vowels   Hence, from a natural instinct for uniformity, the mind of the listener awaited, and that of the speaker supplied, the sound *s* in the

same tense ('I placed'), whether phonetically it would have disappeared or not. Thus ἔστησα held its ground, and continued to be rebuilt, in spite of the phonetic rule which should have corrupted the word into ἔστηα.

There are also other psychological influences which it is possible to comprehend In Latin an original diphthong *oi* becomes by phonetic law first *oe* and then *ū*. Thus *ūnus* = *oenus* = *oinos*. Nevertheless *foidos* ('treaty') never gets beyond the form *foedus* , there is no †*fūdus*. But it is easy to understand that *foedus* is a word of official and legal documents and smacks of the formalities of the Senate. In such circumstances the old-fashioned pronunciation is apt to be retained in spite of all phonetic tendencies to the contrary. Nevertheless we cannot pretend to discover all such instances nor to be sure of our clue

Be this as it may, when a mental operation checks a phonetic change, there is in point of fact an exception to the phonetic law That it may be explained, does not make it less an exception. It is therefore, after all, meant by the severely rigid school that, if there were no borrowing, and if psychology did not interfere in articulation—if there were no instinct of grammatical analogy or deliberate archaism or the like—a sound in a certain environment would always be treated by the same language in precisely the same way. But this is to deal with a hypothetical or sublimated language, not with a real language If, for instance, modern English is cleared of all words not of direct Mercian descent ; if all the words of Wessex and Northumbria, all Scandinavian forms, as well as the Latin, French, Dutch, and other borrowings which it contains are eliminated , if all forms due to association of ideas or instinct for uniformity of system are also taken out , then we have English as it might have been, but not as it is. The same observations are applicable to Latin or to Attic Greek or to any other civilised tongue.

Though it has seemed worth while to make these

qualifications, it is not to be denied that, if we agree to treat a language in this fashion, it will in point of fact show remarkably little violation of its phonetic laws in what is left.   When foreign words, dialectal words, archaic words, and words influenced by analogy have thus been subtracted, and when the phonetic laws themselves have been stated with their proper limitations, the rigid view appears justified by experience

Absolutely to prove the inviolability of phonetic laws would require immense material   It would be necessary to obtain a panoramic view of the history of every word, to know how it came into the language—whether by direct inheritance or by borrowing—to discern by what classes of persons and how frequently it was used, and to possess a complete comprehension of the subtle workings of analogy. All this being out of the question, we fall back on logical probabilities

The *a priori* argument has been that with a people, as with an individual, if a certain sound habitually commends itself to the organs of articulation, it will do so whenever the circumstances are the same.   A people which commonly pronounces an initial *k* before *i* and *e* as *c* (*s*), does so for some strong reason, all the more strong for being unconscious. It may therefore be expected to pronounce such a *k*, not sometimes, but always, in that way.   A people like the Maoris or the Zulus, whose own words invariably end in a vowel, as the result of a peculiar manner of articulation, will always pronounce even borrowed words with a vowel at the end, simply because of the power of that habit   The Maori, moreover, thanks to some peculiar trick of articulating, has so habitually separated his consonants by means of a vowel, that he unconsciously does the same with the consonants of a European name   Thus *Thomson* in Maori is *Tamahana* and *Croft* is *Korowhata*   Similarly in South Africa *gold* is *igolide* and *sugar* is *isugile.*

The argument is practically that the thing is done because it is not thought about, but 'does itself.'   This

argument is no doubt stronger for small and homogeneous barbarian peoples than for extensive nations of mixed racial and linguistic origin Nevertheless, though not conclusive, it possesses considerable force even for the latter. It forms at least a good working hypothesis for the student, and there would have been little exactness of etymology without it

There is, however, a more substantial argument for phonetic regularity than general reasoning and *a priori* likelihood Philologists have found that, the more closely and cautiously they examine a language, the fewer are the apparent exceptions to its phonetic rules What were once called 'sporadic exceptions' tend to disappear Words once empirically assumed to have a certain derivation are now shown to have had an origin altogether distinct. The Greek θεός (*theos*), assumed to be identical with the Latin *deus*, was once regarded as a 'sporadic exception' to a law The Greek initial θ (*th*), it was recognised, ought not to answer to the Latin initial *d* One or other language must have broken its phonetic laws ; either the Greek initial ought to be δ (*d*), or the Latin initial ought to be *f* Yet the words possessed so exactly the same meaning and were so much alike in shape that there was a natural reluctance to separate them The more modern and more expert philologist denies the exception in denying the identity. It may take some searching to discover that the Greek word descends from **dhụes*- and the Latin from **deụ*-, and that the true congeners of the former are to be found in the Middle High German (*ge*)*twas* ('ghost') and the Lithuanian *dvase* ('spirit'), but it is through such searching that sound etymologies are to be ascertained.

In other cases investigation has shown that phonetic laws are apt to be stated too comprehensively. Part of the work of the modern philologist has been to re-state the laws, limiting them to their true application and discovering the qualifying laws or sub-laws It had, for example, been

laid down by 'Grimm's Law' that an Indo-European *t*
(represented commonly by *τ* in Greek and *t* in Latin)
became in Old English *th*, as in *three* = **treies*, *that* = **tod*
One qualification of this law has been already stated, viz.
that *st* remained unchanged (as in *stand*).   To the over-
whelming majority of instances the law duly applied
Nevertheless there were exceptional words which refused
to be brought under the law   The Old English *fader*, *moder*
must manifestly represent the original words which appeared
in Latin as *pater*, *mater*, and in Greek as *πατήρ*, *μήτηρ*
(*pater*, *mēter*)   Those primitive words must be assumed
to have been **pater*, **māter*.   *Brother*, which is the repre-
sentative of **bhrāter* (Latin *frāter*, Gk. *φράτηρ*), was obedient
to the Teutonic rule concerning *t* , and why were *fader*,
moder not equally so ?   Yet Anglo-Saxon and Old English
(including the English of Chaucer) had no such forms as
father, *mother*.   It is true that we now actually use these
latter forms, but that is simply because we have assimilated,
by mental association, the shape 'mo*ther*' and then 'fa*ther*'
to the shape 'bro*ther*'   The question is, 'Why do Anglo-
Saxon and Old English offer *brother* according to the law,
but *fader*, *moder* in violation of the law ? '   The notion that
these were accidental (or 'sporadic') exceptions was over-
thrown by Verner, who showed by an exhaustive process
that the phonetic law in question must be qualified by a
sub-law   The phonetic law was true for an initial *t*, and
for any *t* which *followed* the accent in the Indo-European
word (e.g. **bhrā́ter*), but it was not true for a *t* (other than
initial) which *preceded* the accent (as in **pɘtér*, **mātér*).
In the latter circumstances it passed on to *d*.   The point
may appear somewhat subtle, but it only the better ex-
emplifies the care with which both laws must be laid down
and apparent exceptions must be treated.   When once
discovered, 'Verner's Law' did away with other 'exceptions'
of the same kind.   The I -E **k̂lutós* ('heard') becomes in
Greek *κλυτός* (*klutos*) and in Latin (*in*)*clutus*.   Noticing the
accent, and asking ourselves what should be expected in

Old English, we shall now say, not that by Grimm's Law it should become *hluth*, but that by Verner's Law it should be *hlud* (= *loud*[1]). What were apparently examples of the laxity of law thus turn out to be illustrations of the contrary

All languages have their special phonetic tendencies, which may result in laws and sub-laws Some of these are obvious and far-reaching, and are among the chief differentiators of related speeches. Thus the French and Italian sister-tongues diverge conspicuously in their treatment of those parent Latin words in which a single consonant stood between two vowels French in such positions loses all trace of the consonants *g, t, d*. The following examples of the law may suffice —

$$
\begin{array}{lll}
\text{Lat } \textit{lig\={a}re} & > & \text{Fr } \textit{lier} \\
\textit{reg\={i}na} & > & \textit{reine}
\end{array} \Big\} \text{loss of } g
$$

$$
\begin{array}{lll}
\textit{n\={a}t\={i}vus} & > & \textit{naif} \\
\textit{d\={o}t\={a}tus} & > & \textit{dou\'e}
\end{array} \Big\} \text{ loss of } t
$$

$$
\begin{array}{lll}
\textit{cr\={u}d\={e}lis} & > & \textit{cruel} \\
\textit{cauda} & > & \textit{queue}
\end{array} \Big\} \text{ loss of } d
$$

From this tendency (which appears to be due to Celtic racial qualities) Italian is free, its words being *ligare, regina, nativo, dotato, crudele, coda*. Should the etymologist meet in French with a word which appears to violate the phonetic rule above stated, he generally finds it easy to show that the word in question is not part of the vocabulary inherited directly from Latin by the speakers of the *lingua romana* of France, but is a later importation, borrowed from Latin after the French language had already become by phonetic operations practically what it now is Thus *maître*, representing *magister*, is French of the older stock, to which alone the law applies, while *magistrat* is but French by adoption.

[1] In reality *hlūd* = **klūtós* (*i e.* with a long quantity of the root-vowel)

GRIMM'S LAW

An example of a phonetic law, highly interesting in itself, and especially so to students of the English language, is that known by the name of Grimm   The actual discovery of the phonetic correspondence concerned had been (in part at least) anticipated by Ihre and Rask, but the definite formulation of the law—though incorrect, because too comprehensive—was first made by Jacob Grimm in his *German Grammar*. It will be disproportionate here to give in detail the history of all the modifications which have been found necessary in the too symmetrical statement of Grimm , nor need we be concerned to set forth minutely every sub-law which investigation has discovered. The following must be taken as but a working account of the main facts of the law and a rough guide to its practical application.

Grimm's Law is concerned with the Indo-European explosives or ' mutes,' and their treatment in the Teutonic languages   It will be sufficient if we write these original consonants as the Aspirates *gh, dh, bh*, the voiced Explosives *g, d, b*, and the voiceless Explosives (or Tenues) *k, t, p*   We have thus three classes of sounds, to which we may refer respectively as A, M, T (*i e* Aspiratae, Mediae, Tenues)   On passing into the ' classical ' languages, *i.e* into Greek, Latin, and Sanskrit, these sounds commonly (though by no means always) adhere to their original class   A Tenuis becomes regularly a Tenuis, a Media is still a Media, and an Aspirata is either represented by an Aspirata or by some sound which may be taken as the easy development from an Aspirata. Exceptions to this regular representation are, indeed, not few, and are duly classified by special philologists in their proper place   under the phonetic laws of Greek, Latin, or Sanskrit as the case may be.   Yet, broadly speaking, the classical tongues remain faithful to the original

kind of sound   Thus for Greek and Latin the ordinary correspondence is ——

I -E	GREEK	LATIN
1 A viz *gh* *dh* *bh*	A χ (*kh*) θ (*th*) φ (*ph*)	A (or spirant therefrom) *h* (and *f*) *f* (and *d*) *f* (and *b*)
2 T viz *k* *t* *p*	T κ τ π (*p*)	T *c* *t* *p*
3 M viz *g* *d* *b*	M γ (*g*) δ (*d*) β (*b*)	M *g* *d* *b*

On the other hand, the Teutonic languages show a peculiar and systematic 'shifting' in each of these classes To whichever class a sound belonged in primitive Indo-European, we may be sure that (except in special circumstances to be stated immediately) in Teutonic it will have changed to one of the others.   An Aspirata will not appear as an Aspirata, nor a Media as a Media, nor a Tenuis as a Tenuis.   At some period in the joint (or Ur-) Teutonic epoch there was a progressive shifting all along the line. An original Aspirata became a Media ('A passes to M'); an original Media became a Tenuis ('M passes to T'); an original Tenuis became a Spirant ('T passes to S').   Thus, in English, **bhu-* becomes *be*, **dṵo* becomes *two*, **treies* becomes *three*   This sound-change, which was shared by all the Teutonic speeches, and is therefore early in date, is known as the 'First Teutonic Sound-shifting'[1]   Its cause, whether racial admixture or not, is unknown.   We may

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[1] In German, *Lautverschiebung*

roughly represent as follows the correspondence which resulted :—

	I-E		TEUTONIC	
1	A	=	M	
viz.	*gh	=	g	(e g *g̃hans = Eng *goose*)
	*dh	=	d	(*dhē- - = Eng *dee(d)*)
	*bh	=	b	(*bhu- - = Eng *be*)
2	M	=	T	
viz	*g	=	k	(*g̃enos = Eng *kin*)
	*d	=	t	(*duo = Eng *two*)
	*b	=	p	(*slub- = Eng *slip*)
3.	T	=	S	
viz	*k	=	h	(*k̃r̥d- = Eng *heart*)
	*t	=	th	(*trei̯es = Eng *three*)
	*p	=	f	(*pod- = Eng *foot*)

The difference between the shifted Teutonic and the faithful 'classical' tongues may now be perceived by comparing the Greek and Latin words with the English words in the above list, viz —

I-E	GREEK	LATIN		ENGLISH
A { *g̃hans	χήν (*chēn*)	(*h*)anser		M { *goose*
*dhē-	θη- (*thē-*)	fē-(*ci*)		*dee(d)*
*bhu-	φυ- (*phu-*)	fu-(*i*)		*be*
M { *g̃enos	γένος (*genos*)	genus		T { *kin*
*duo	δύο (*duo*)	duo		*two*
*slub-		(*s*)lūb-(*ricus*)		*slip*
T { *k̃r̥d-	καρδία (*kardia*)	cord-(*is*)		S { *heart*
*trei̯es	τρεῖς (*treis*)	trēs		*three*
*pod-	πόδ- (*pod-*)	ped-(*em*)		*foot*

One modification of this simple and symmetrical scheme, in the shape of Verner's Law, has already been mentioned and will require further reference   Certain other qualifications will be stated in due course.   For the present we shall do best to keep to the main points in the description of Grimm's Law.

At the 'First Shifting,' as described above, the majority of the Teutonic speeches stopped   The formula first given remains generally applicable to the East and North Teutonic tongues (Gothic and Scandinavian) and to those dialects of North-West Germany which have since developed into English, Netherlandish, and Platt-Deutsch.   With South Germany and its dialects the case was different, and the previous formula is only partially true for German proper, as it is now spoken.

In the seventh century A D we find the southern dialects experiencing a 'Second' or 'High German' shifting   The cause of this divergence is again obscure, but is probably to be sought in racial influences (Celtic and Rhaeto-Celtic) more peculiar to the south   The extent of this 'second shifting' is apt to be overstated.   As enunciated by Grimm, it appeared to affect all the explosive consonants alike, so that it was necessary to add a new column to the formula.   We may express this by the following :—

INCORRECT STATEMENT OF GRIMM'S LAW

I.-E		Primitive Teutonic and Teutonic Tongues other than O H G		Old High German (O. H G)
A	$=$	M	$=$	T
M	$=$	T	$=$	S
T	$=$	S	$=$	M

Such a scheme is doubtless attractively symmetrical, but the spurious symmetry thus imparted by Grimm was only partially obtainable, and then only by extremely violent handling of the South or Old High German dialects.   Not only did these show little consistency or agreement with each other, but even after hunting for his examples first in one dialect and then in another, however obscure, Grimm found it difficult to collect a sufficiently respectable array to bolster up his third column.   For any comparison of Modern High German with the Low German speeches the scheme is in the highest degree misleading   Thus the initial consonants in *Gans* and *goose*, *Bruder* and *brother*, *Fuss* and *foot* are the

same in High German as in English, whereas the formula would demand †*Kans*, †*Pruder*, †*Buss*. Grimm's Law, it is true, only postulates such forms for some dialect or other of High German in its 'Old' stage, not for the modern German language. It is perhaps not his fault if the scheme has been too commonly stated as if it were of use for the comparison of the languages as they actually exist. For that purpose it will be found, though not absolutely sufficient, much nearer the mark to state the law thus :—

I.-E		TEUTONIC LANGUAGES (including German, except in regard to the dentals)			MODERN GERMAN (In regard to the *dentals*)	
A (**dhē-*)	=	M	(*do*)	=	T	(*tun*)
M (**duo*)	=	T	(*two*)	=	S^1	(*zwei*)
T (**treies*)	=	S^1	(*three*)	=	M	(*drei*)

It will now be perceived how strictly the following words obey the law, there being but one form for all Teutonic in the case of other consonants than dentals, whereas on the appearance of a dental the High German at once shows the 'second shifting.'

I.-E	ENGLISH	GERMAN
*bhrāter	*brother*	*Bruder*
*krd-	*heart*	*Herz*
*pod-	*foot*	*Fuss*
*dekm	*ten* (Goth *taihun*)	*zehn*
*pet-	*feath*(*er*)	*Fed*(*er*)

It is true that High German, like English, has to reckon with a number of modifications which have occurred since the general sound-shifting. Just as English has come to say *thatch* for *thak*, so German now says *Dach* for *Dak* and *Schaf* for *Schap*, the final tenuis being weakened into a spirant in each case. Nevertheless to enter into these details would be but to blur the general view with which we are here concerned as sufficient.

Of sub-laws affecting the application of the formula

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^{1} S (Spirant) includes *f*, *v*, *th*, *z*, *s* (*ss*), *h*

to the English language it is enough to mention the following .—

(i.) The law does not apply to onomatopoetic words, which are directly imitative of sounds heard and mimicked alike in each generation, e g. *cuckoo, bow-wow* A Greek, Roman, or English child would naturally reproduce these in the same way

(ii) In the original combinations of consonants *sk, st, sp, kt, pt,* the second consonant is protected from the Teutonic shifting. Thus *stand* (Lt. *stāre*), *guest* (Lt. *hostis*, literally ' stranger '), *spy* (Lt -*specio*), *right* (Lt *rectus*). Also in the combination *ght* both consonants adhere to their class, *e g.* in *dhughter, Eng. *daughter*, Germ *Tochter.*

(iii) Verner's Law (as mentioned above) applies not only to *t* but also to the other tenues *k* and *p*. When the Indo-European accent followed these in other syllables than the first, the three tenues are represented, not by spirants, but by mediae (*i e.* T becomes M) The instances of *fader, moder, loud* have been given. Similarly A S. *swegor* = Gk. ἑκυρός (root **suek-*, with accent on the suffix)

In addition to these statements of actual phonetic laws peculiar to the Teutonic branch, and therefore affecting the English tongue, the following important considerations must not be forgotten :—

(*a*) Grimm's Law and its sub-laws have no concern with English words which have been borrowed from Latin, French, or any other foreign speech. These words naturally exhibit the consonants of the language from which they were borrowed. Thus *pain* contains the same *p* as the Greek ποινή (*poinē*) and Latin *poena*, simply because it is the French word *peine*, and French, being the outcome of Latin, is a language with which the sound-shifting of Grimm's Law has nothing to do Similarly *pit* is an Anglo-Saxon borrowing from the Latin *puteus*, *dish* from *discus*, *candle* from *candēla*

(*b*) As has been stated already, English and other Teutonic speeches, after the old period in which they

illustrated more closely the simple shifting of the formula, have proceeded to various further corruptions in certain respects.   English, for example, in its oldest period, used the forms *thak* and *wak*, and these are the exact representations by Grimm's Law of the original **teg*, **ụeg*   In more recent English, however, they have become *thatch* and *watch*, or, as it is technically expressed, *k* has become *tš* (or 'palatalised')   Similarly, corresponding by Grimm's Law to the Latin *gena* and the Greek γένυς (*genus*) the Anglo-Saxon word is *cin* (pronounced *kin*).   But in this case also palatalisation has since taken place and the result is *chin* (*tšin*).   Answering to Latin *piscis* (original **pisk-*) we meet in A.S. with the correct form *fisc*, but later *fish*   In the same way we find an A S initial *g* before a palatal vowel subsequently turning into *y*.   Thus A.S. *geard, geolu, gestra-* became *yard, yellow, yester(day)*.   Such palatalisations as these must be allowed for in dealing with modern English.

(c) Sounds once heard in an older stage of the language are sometimes entirely lost from modern English.   Thus *hlūd* (**k̂lūtós*) becomes *loud*, *hraw* (Lt *crū-dus*) becomes *raw*, *stigel* becomes *stile*, *ic* (Lt. *ego*) becomes *I*   *Ten* once contained the *h* (seen in Gothic *taihun*, Germ. *zehn*) which should answer to the *k̂* in **dek̂ṃ*

It follows from what has now been said, that in applying Grimm's Law to the English language we must always—

(1) Go back to the forms of oldest English

(2) Disregard all words borrowed from foreign tongues

(3) Remember the exceptions which come under the sub-laws.

(4) Understand that the comparison is strictly with the original Indo-European and not primarily with the 'classical' tongues

The last point is of much importance.   The habit of treating Grimm's formula, even when amended in the Teutonic columns, as if it stated the relations of English and German directly to Greek and Latin is an erroneous

one   The relations which are stated are those of English
and German to the primitive original and to each other   It
is true that the classical tongues are on the whole faithful
to the original.   Nevertheless these also have their peculiar
phonetic laws, which prevent an equal adherence in all
cases to the same class of consonant as occurred in the
original.   Thus Latin turns the original aspirates, when
initial, into spirants   There are also special circumstances
in which it represents *dh* by *b* or by *d*, *gh* by *g*, *bh* by *b*.
A discussion of the rules for these and other phenomena
belongs to the special phonology of Latin   The reason of
their mention here is that an English word like *red*, which
correctly answers to the Latin *ruber*, or like *mid*, which
correctly answers to *medius*, might easily be suspected of
violating Grimm's Law, on the ground that the English
Media (M) should, according to the formula, be answered
by Latin Aspirate (A)   Yet what the formula really
enunciates is simply that the English Media (M) is a
derivative from an *Indo-European* Aspirate (A).   In other
words, the *d* in *red* and *mid* represents original **dh.*   And
this is true   The Indo-European forms are to be postulated
as **rudhros* and **medhios*.   In these cases it happens that
Latin, by a rule of its own, does not remain true to
the class of the consonant, but represents an Aspirate
by a Media.   In order therefore to know whether an
English and a Latin word correspond by phonetic law to
each other, we must know not only Grimm's Law and its
qualifications as applied to English, but also the phonetic laws
which have meanwhile operated upon the Latin language

*The proper method of testing the supposed identity of an
English word with a classical word is to find the I -E. original
of the English word according to English phonetic laws
(including Grimm's) and then to ask whether the said original
could become the classical word in question.*   Are *mid* and
medius, for example, the same word, without borrowing on
either side ?   This is really to ask whether, since *mid* pre-
supposes an original **medh-*, the said **medh-* could result

in the *med-* of the Latin *medius*. Of course the process may be reversed by beginning with the Latin word, postulating the original from which it would or might come, and then asking what the shape in English ought to be by the phonetic laws of that language Given the Latin *fagus*, Greek φηγός (*phēgos*), as the name of a tree, what shape should we expect for the same word in English? The answer is that, since *fagus* and *phēgos* point to an original *bhāgos*, the Old English form should by Grimm's Law contain the consonants *b---k* In point of fact the Old English was *boece* (with *c* as *k*), and if this now appears as *beech* (though a by-form of the original is possibly retained in *book*), the *ch* is but another instance of the palatalising tendency already observed in *thatch, watch* On the other hand, given the English *tooth* (once *tonth*), we postulate by Grimm's Law a primitive Indo-European form containing the consonants *d-nt* Looking thence to Greek and Latin, and applying the phonetic rules of those languages (which in this instance do not change either consonant), we are satisfied with Greek ὀ-δόντ- (*o-dont-*), Latin *dent-*

For the sake of clearness we may tabulate a few examples of the process indicated —

(1) English	(2) Original I -E consonants according to Grimm's Law and sub-laws	(3) Greek or Latin natural derivative from (2)
yoke	*ị - - - g*	Lat *iugum* Gk. ζυγόν (*zugon*)
guest	*gh - - st*	Lat *hostis*
gall	*gh - - l*	Lat. *fel* Gk χολή (*cholē*)
thatch (*thak*)	*t - - - g*	Lt *tego* Gk τέγος (*tegos*)
harvest (A S *haerfest*)	*k - - rp*	Lt *carpo* Gk καρπός (*karpos*)
feather	*p - - t*	Lt *peto* ('fly to') Gk πέτομαι (*petomai*)

Or conversely —

(1) Latin or Greek	(2) Original I -E consonants according to Greek or Latin phonetic laws	(3) English, naturally resulting from (2) by Grimm's Law and sub-laws
Lt *gus-tus* ('taste') Gk γεύω (*geuo*)	* g - - - s	*k* - - *s* (A S *ceosan*, Eng *choose* by palatalisation)
Gk δρῦς (*drūs*, 'oak')	* dr - - -	*tr* - - (*tree*)
Gk παῦρος (*pau-ros*) Lt *pau-cus*	* p - - -	*f* - - (*few*)
Gk δέκα (*deka*) Lt *decem*	* d - - k	*t* - - *h* - (*ten*, Gothic *tai-hun*)
Gk ἱδρώς = (*swidrōs*) Lt *sūdor*	* su̯ - - d	*sw* - - *t* (*sweat*)

If for the English words in each case we seek the German, it will be remembered that the dentals only are in question. Thus for the consonants affected by Grimm's Law in *thak* (*thatch*), *feather*, *ten*, *sweat*, we shall expect in German *d - - - k* (later *d - - ch*, *Dach*), *f - - d* (*Feder*), *z - - h* (*zehn*), *sw - - z* (*schwizzen*).

With inquiry directed in this way, exceedingly interesting correspondences of words are to be discovered, as may be judged from the few examples already given.

In conclusion, as some practical assistance to the testing of the original relationship of English, German, and classical words, wherever Grimm's Law is in point, we may make the following fuller tabulation :—

GREEK	LATIN	ORIGINAL I-E[1]	EARLY TEUTONIC (AND ENGLISH)			HIGH GERMAN 'Second Shifting' in dentals
			(a)	(b) with Verner's Law	(c) unchanged in	
T $\begin{cases}\kappa\\\tau\\\pi\end{cases}$	c t p	* k * t * p	S $\begin{cases}h\\th\\f\end{cases}$	g d b	sk st, pt, ht sp	d (but st) ...
M $\begin{cases}\gamma\\\delta\\\beta\end{cases}$	g d b	* g * d * b	T $\begin{cases}k\ (ch\ \text{when palatalised})\\t\\p\end{cases}$			z (initial), ss, sz (f at end)
A $\begin{cases}\chi\ \ hf(g\ \text{interior})\\\theta\ \ f(\text{interior} b, d)\\\phi\ \ f(\text{interior} b)\end{cases}$		* gh * dh * bh	M $\begin{cases}g\\d\\b\end{cases}$			t

[1] Strict science would demand that we should add certain sounds which have been omitted with a view to simplicity. These are the velars, for which the correspondences are—

I -E	TEUTONIC	GREEK (varying according to special phonetic laws)	LATIN (varying according to special phonetic laws)
* $q^{\underline{u}}$	$(h)w,\ wh$	$\kappa\ \tau\ \pi$	$qu\ c$
* $g^{\underline{u}}$	$kw(=qu),\ c$	$\beta\ \delta\ \gamma$	$g\ v$
* $gh^{\underline{u}}$	$(g)w$	$\phi\ \theta\ \chi$	$f\ v$

Thus English *warm* may answer to Greek $\theta\epsilon\rho\mu\acute{o}s$ (*thermos*), Lat *formus*, from *$ghu - - rm -$, *come* $=\beta\alpha\acute{\iota}\nu\omega$ (*bainō*)$=venio$ from *$gu - - m -$. But these are matters of the special treatise.

CHAPTER XIV

GENERAL PHONETIC TENDENCIES IN LANGUAGE

WHILE each language thus exhibits its own phonetic laws, it is not easy to discover phonetic laws which are of universal application A sound or combination of sounds favoured by one language is for some reason rejected, or never developed, by another, although the two speeches may be closely related Thus English has entirely abandoned the so-called 'guttural' *ch* (really either palatal, as in the German *ich*, or velar, as in *auch*) Our spelling still offers a token of its previous existence in the *gh* of *night, right, eight, bought*, but the pronunciation is attempted only in a word like the Scottish *loch*, which itself proves the rule by the very difficulty which the average Englishman finds in articulating it. Meanwhile the sound is familiar and easy to a German. On the other hand, while English retains the old pronunciation of *w*, as in *work, wine, wit*, German has rejected it for the sound *v*.

In few such cases of national preference can we speak of the greater and less intrinsic ease of the respective sounds, as if the one were inherently more difficult of articulation than the other. Occasionally, it is true, we may make that assertion. Doubtless some appreciable muscular effort is required to utter the aspirate *h* Its omission is distinctly 'easier,' and therefore nearly all languages in which it has existed have shown a tendency to drop it, and many—such as Greek and the Neo-Latin tongues—have dropped it altogether. Doubtless also the entire omission of other

sounds, as in the English *night* and *eight*, may fairly be said to represent an absolutely easier articulation than would be the case if they were retained.   All languages therefore tend more or less to the omission of sounds, although they may not be the same sounds   Again, an explosive, such as *k*, demands a completeness of contact which there is a common tendency to relax, and the result may be a spirant, e.g *ch* (*tš*) or *s* (*z*)

Nevertheless, in any comparison of the sounds affected and rejected by one speech with those affected and rejected by another, it is generally futile to discuss their relative difficulty from any absolute standpoint.   For the most part it can only be said that a familiar sound is easy, while an unfamiliar one is hard   If not attempted until a certain age, the English *th* generally baffles the Frenchman, just as the French *u* or *en* generally baffles the Englishman.   But this cannot be put down to any absolute and inherent difficulty in the English *th* or in the French *u* or *en*.   It simply means that certain actions of the vocal apparatus— a certain adjustment of the tongue and teeth—necessary for *th*, are actions of a kind to which a Frenchman has not been habituated, whereas an Englishman, on his side, has not been accustomed to raise, but on the contrary to drop, his larynx while shooting out his lips for the *u*-sound.   The position for *th* is in no sense harder or more effortful than for *f* or *v*, which are sounds entirely familiar to French ; nor is the position for the French *u* in itself any harder than for the common English sound of *ee* in *green*.   The relative intrinsic difficulty of sounds may therefore be here set aside as a complicated question of a physiological nature

It is impossible to trace the various conditions, racial, climatic, and social, which may have determined the peculiarities and limitations of articulation of a particular people.   The chapter of mere accidents would almost certainly be a considerable one   But against one or two misconceptions it is necessary to guard.

Experience proves that any actual physical difference of the articulating organs of different peoples plays little or no part in the matter. An English child born and bred in France or in Hindustan is as fully able to articulate the language of his adopted country as the native child A Chinese born and educated in Australia has no perceptible difficulty with English sounds which his parents could not achieve.

Again, a very little observation will show that there is small truth in the common notion that the languages of warm regions are necessarily 'softer' in their sounds than those of colder and more strenuous zones. In actual fact some of the hardest and harshest sounds (from our point of view) are to be met with in the gutturals of the Semitic languages of Arabia and Northern Africa, and in the modern Spanish with its *j* and *g* as influenced by the Moors. The careful philologist will not at present sanction any broad statements as to the necessary effects of this or that strain or climate He will be satisfied with observing the facts of each language. From these he will derive the conviction that the 'difficult' sound, like the 'ugly' sound, generally means the sound to which the articulating organs and the ear are unaccustomed. The fallacy of 'ugliness' is indeed an obvious one. Latinists of the old school are prone to speak of the now recognised pronunciation of e g. *neu patriae validās in viscera vertite vīrēs* (with *v* sounded as *w*) as 'ugly' in itself In other words, *w* is an uglier sound than *v*. Yet the same judges would equally describe as 'ugly' Mr Weller's pronunciation of his own name and of *vidows* It turns out that, here at least, the ugly sound is simply that which the ear does not expect.

The conditions and influences, then, which have determined the various schemes of articulation developed by various peoples, are beyond discovery The linguals *l* and *r*, for example, are (so far as we can tell) equally 'easy' The tongue is brought to the roof of the mouth

above the teeth.   If its sides are allowed to relax, so that
the air-stream may issue, the result is *l*, if it is the tip
which is relaxed, the result is *r*.   Why therefore, while
very many languages possess both *r* and *l*, should *l* be
unknown in Maori but *r* be unknown in Chinese?   In
Chinese *Christ* becomes *Kilissetu* ;   on the contrary, in
Maori *Babylon* becomes *Paparona*.   The Maori or Chinese
child who is taught English from the cradle can use *r* and *l*
indifferently.   Moreover, the fact that a language now
contains no *r* cannot be taken as proof that it never did
contain that sound.   There is apt to be an interchange of *r*
and *l*, as in the Italian *albero* for Latin *arbor* or French
rossignol for *lusciniola*, and frequently in Sanskrit.   Primi-
tive Greek certainly once possessed the sounds *w* and *y*
(*u̯*, *i̯*), and the former at least was still vigorous in the day
of epic poetry, and died but slowly in certain of the dialects.
Yet the ordinary classical Greek, like the modern, possessed
neither *w* nor *y*.   Similarly the *w* of Old Latin is unknown
to its Romance descendants, which have substituted *v*.

If all the sounds in all the languages of the world were
collected and classified, it would be found that each
individual speech employed but a portion, greater or smaller,
of the total.   Max Muller observes that in Hindustani
there are forty-eight consonants, while Polynesian is satisfied
with ten.   Sanskrit had no short vowels *e* and *o*, although
these had been possessed by the original Indo-European, and
are faithfully retained in Greek and duly represented else-
where   These sounds cannot have been ' harder,' even to the
mouths of primitive speakers of Sanskrit, than short *a*, *i*, and *u*.
With any theory as to the influences which caused the
transformation of *e* and *o* into *a* in that branch of the family
we are not here concerned.   The present point is that neither
inherent difficulty of the sound, nor peculiar physical
formation of the vocal apparatus, nor peculiarity of climate,
must be urged as an efficient cause of this phonetic
aberration.   All we know is that a tendency must somehow
have begun, spread, become general and finally universal.

The process by which such spreading took place has been sufficiently outlined in a previous chapter

It has been necessary to safeguard with this brief introduction the usual statement that languages all alike modify their sounds in the direction of greater ease. This is true, but the greater ease is generally not that of some absolute standard, but is relative to the habits of the speakers respectively concerned. A sound which manifestly demands considerable muscular exertion may be so common in a particular language that it may even attract towards likeness with itself another sound which is intrinsically easier. Thus the Irish articulation of *t* and *p* as *t*ᶜ, *p*ᶜ, i e. as *t* or *p* followed by a sound approaching the aspirate, may be said to demand more effort than the English *t* or *p* Yet an Irishman accustomed to *t*ᶜ and *p*ᶜ will find it easier, from force of habit, to say *T'oimes* than *Times*. There is actually more work on the part of the articulating organs in pronouncing *Korowhata* than in pronouncing *Croft*. Yet to add that work is easier for the Maori than to break an inveterate habit and articulate two consonants together

That there are, indeed, certain sounds which do demonstrably call for less muscular effort than certain others has already been acknowledged. Thus in a stop-sound (or explosive) the air-stream must be unequivocally blocked. With or without the knowledge of the speaker there is decision on the part of the articulating apparatus Thus in the case of *k* the check made by the back of the tongue against the palate is complete , for *b* the lips are entirely closed. Such resistance to the air-pressure, such actions of the tongue and lips, are muscular and involve effort, even though that effort be unconscious. It may be assumed that in general the effort would be less if the complete contact were not insisted upon. If the closure of the lips were less decisive, or the block with the back of the tongue less determined, there would be somewhat less demand upon muscular energy. In other words, a more languid

articulation tends to leave a fissure or chink in the oral passage The result is a spirant, and *ch* (Scotch or German) takes the place of *k*, and *v* of *b* Such a change might occur particularly at the end óf words, by reason of the relaxing effort Thus in German *Dach* is an easing of †*Dak*, and the English *thatch*, *batch*, and the like, though they involve more change than the German (including a change of place to the front palate, as represented in the phonetic symbol *tś*), illustrate the same operation. The modern pronunciation of *calf*, as compared with an older †*kalb-*, is another example of the tendency to drop from the muscular standard of a stop to the less exacting standard of a spirant.

It may be accepted that such changes from stop to spirant are changes in the direction of absolutely greater ease, that is to say, less effort Also the omission to articulate final consonants, so observable in the French *t, s, p* (*est, fois, drap*, etc.), is an evident relaxing of exertion. The same phenomenon occurred in very early Greek with nearly all consonants except *s, r, n*. Thus †τίδ (*tid*) became τί (*ti*), †γύναικ (*gunaik*) became γύναι (*gunai*) In the spoken Latin also a final *m* or *s* was scarcely audible, if at all, and *locus, locum* were pronounced *locu'*. Chinese also has clipped a word like *dap* into *ta*, and in Polynesian the Tongan *ato* is all that answers to the Malay *atap*. Final vowels have been lost for the same reason This has been conspicuously the case with English. Large numbers of Anglo-Saxon words ended in various vowels, e g. *a, o, u* These first became all alike slurred into *e* (the indeterminate *ə*), and then even that sound gradually disappeared from use. We still often write its sign (though inconsistently) without any consciousness of its origin. The history of the French '*e*-mute' is the same. *Peine* was once a word of two syllables, like the Latin *poena*, but after the pronunciation had become, by the first laxity, †*pēnə*, it passed, by a second laxity, into *pēn*.

Nor is it merely final sounds, whether vowel or consonant, which have disappeared through remissness of effort. Interior syllables, when they bore no accent, have been first

slurred over and then totally omitted   A striking example of progressive curtailment is that of the English *ma'am*. The pronunciation is now monosyllabic (*mam*), and in the mouth of the uneducated it is often simply *'m* (= $\underset{\circ}{m}$), as in *Yes'm*.   The chief steps in the abridgment are *mea dómina*, *m(e)a dómna*, *mádam*, *ma'am* (*mam*), $\underset{\circ}{m}$.   In this, as in countless other instances, economy of effort is self-evident. Languages differ much in the extent to which they have omitted their unaccentuated syllables, but the tendency is natural and is very widely spread   Old Latin thus syncopated such words as †*súbrego* (*surgo*), †*úsurapo* (*usurpo*). With French such syncopation is a special characteristic. Thus *septimána* becomes *semaine*, *Séquana* becomes *Seine*, *décima* becomes *dîme*.   In English *Thursday* = *Thúnresdaeg*, *York* = *Eoforwic*, *England* = *Aenglaland* ; *forecastle* is pronounced *foc'sle*, *lark* = *laverock*.   It is through the operation of the same tendency that in German *bei dem* is more commonly *beim* and *zu der* shortened to *zur*

Of distinct easing or economy of effort we have thus enumerated the following cases —

(i) Relaxings of closure and easings of a stop to a spirant

(ii.) Omissions of final consonants and vowels.

(iii) Omissions of unaccented syllables in the interior of words (or syncopation).

These, however, are by no means all the classes of sound-change which are plainly due to the same cause   There may be omissions from the beginning as well as from the end.   Greek thus entirely discarded the initial *w*-sound, as in οἶκος (= *(*ṷ*)*oîkos*), exactly as it tends to be omitted in dialectal English or Scottish before the sound *oo* (*u*) in *'ooman*, *'oo'* (= *wool*) and the like.   Old Irish similarly dropped the initial *p* in such words as *athir* (Lat. *pater*), *orc* (Lat. *porcus*).   In English *mend* = (*a*)*mend*, *fend* = (*de*)*fend*.

Less obviously, but quite as certainly, to be placed among

yieldings to 'absolute' ease are the assimilations of one sound to another when the two come to be juxtaposed. Such assimilation may occur in respect of either the place of articulation in the mouth, or of the kind of articulation. While it cannot be shown that, of the two sounds *m* and *n*, one is more or less effortful than the other, and while therefore the change of the labial *m* to the dental *n* cannot itself be taken as an example of economy of effort, yet when *n* is substituted for *m* in the combination *mt* or *md*, we are justified in regarding it as such an example The Latin *centum* represents an older †*cemtum*, just as English *hundred* represents a more ancient †*humd-*. The modification of Latin *vērumtamen* and *septem triōnēs* into *vēruntamen* and *septentrio* is actually seen in process of occurrence It requires little discernment to realise that the successive articulation of two different consonants, one at the lips (*m*), the other at the teeth (*t*), requires more muscular exertion than that of two consonants at the same place (viz. *n* and *t*).

Similarly, when a consonant with one kind of articulation (voiceless, voiced, or aspirate) is brought into immediate contact with a consonant of another kind, it is absolutely more easy for the vocal machinery to adapt or assimilate the two to each other so that both are of the same kind. Thus in the three Greek words κρυφθῶ (*kruphthō*), κρυπτός (*kruptos*), κρύβδα (*krubda*) the variation in the final letter of the root (viz. κρυφ- κρυπτ- κρυβ-) is caused by the difference in the character of the succeeding letters (-θ -τ -δ) The aspirate θ(*th*), the voiceless stop τ(*t*), and the voiced stop δ(*d*) of the suffixes assimilate to themselves the final sound of the root, making it aspirate φ(*ph*), voiceless stop π(*p*), or voiced stop β(*b*) respectively. The sounds in speech, it has already been observed, are not pronounced singly and staccato. They link themselves together very much as writing links together the letters in a word Just as the pen adopts the easiest or most fluent method of 'running on' letter into letter, so the organs of articulation follow the flowing course of least effort in 'running on' sounds One result is assimilation, as above

described   Another is the development of the glides into fully audible sounds   The glide from *n* to *r* develops into *d* in the French *gendre, tendre, cendre* (whence English *tender, cinder*), from †*genre,* †*tenre,* †*cenre* (Latin *gen(e)rum, ten(e)rum, cin(e)rem*)   So in Greek †ἄνρες (*anres*) becomes ἄνδρες (*andres*).   Although this development appears at first sight to be adding to the amount of articulating work, it is in truth a saving of muscular energy to pronounce *ndr* in place of *nr,* just as it is easier for the pen to link the two letters in writing than to lift itself after *n* and begin afresh with *r*   In the same way it is easier to pronounce *mbl* or *mpl* than *ml* alone   Hence *humble* instead of †*humle* (Lat *hum(i)lis*), and the Latin *exemplum* (' a thing picked out ') for †*ex-em-lum.*   The old spelling *Hamblet* represents a natural easing of *Hamlet,* as does the modern *Ambleside* for *Hammel-set*

To the three forms of easing first specified we have therefore to add—
    (iv) Assimilation of neighbouring sounds
    (v) Development of glide-sounds

Of all these five forms—relaxings of closure, omissions of final sounds, syncopation through loss of unaccented syllables, assimilation, and development of glides—we are entitled to say that they result in a demonstrable saving of effort and in the creation of an absolutely easier articulation in place of a harder   But of many other changes adopted by this or that language we cannot say the same.   The new sounds are not necessarily always easier in the sense that less precision or energy is required, and a phonetic law of a given tongue may in reality run counter to any supposed rule that change is always and inevitably in the direction of diminished work on the part of the articulating organs   Such a rule might perhaps exist if the mind, or artificial social influences, played no part in determining sounds , if, for example, the shape of one word did not influence the shaping of another.   Doubtless the effortful English *h,* which was disappearing

from the language, has been brought back mainly by the conscious reaction of education , but the result is that the sound has been imported into a number of words in which it has no historical right to exist   In this instance we may be aware of the influence which runs counter to phonetic easing, but the counter-running is none the less a reality.   In many cases we are not in a position to discover the cause, but we cannot deny the fact

Notwithstanding the qualifications which it has seemed necessary to make, it remains now to reaffirm the doctrine universally held, that *the cardinal principle of sound-change is economy of exertion*   That each and every change must be in that direction is indeed a statement by no means to be accepted.   Nevertheless the principle itself is one of over-whelming power, and the exceptions count for comparatively little   Omissions, easings, and assimilations are tendencies of language everywhere met with.   The popular Latin *metipsissimum* now appears simply as the French *même* or the Spanish *mismo*, and, if *mea domina* appears in English as the monosyllable *ma'am*, it is because the vocal apparatus has step by step stinted its task of full and exact enuncia-tion.   Of the slurring and abbreviating which have taken place at each step the speakers have nearly always been unconscious.   The series of generations which gradually curtailed *metipsissimu(m)* into *metissimu*, this into *metesme* and *medesme*, thence into *mesme* and so to *même*, were not alive to what was taking place in their own articulation.   If the word had proved unintelligible when uttered by the numbers, small or large, who first dropped into the laxity of omitting a portion of its sounds, the remissness would have been checked   The same result would doubtless have occurred if there had existed a universal education alert to criticise such laxity and to brand it with reproof or ridicule But, in the first place, each step in the change was so slight and gradual that there could be no mistake as to the meaning, and, in the second, there existed no such general

educational criticism   *Metissimu* is easily understood in the intended sense of the earlier word   When this is established, the slurring of a further syllable (*metismu*) causes no perplexity to the hearer   And the case is the same with each succeeding loss of sound   Again, the infinitive ending *-an* of Anglo-Saxon, bearing as it did no accent, became lightened into *-en(-ən)* in early or semi-Saxon English   From this, again, the *-n* was dropped, and *-e(-ə)* alone remained.   Later still the *e* also disappeared from pronunciation, and an infinitive such as *bear*, *run* becomes a word of one syllable instead of two   The method of grammar which came to prevail in English made *helpe* quite as intelligible an infinitive as *helpen*, and when subsequently *help* took the place of *helpe* the sense was still conveyed equally well.   Meanwhile it was to but an inconsiderable extent that the schoolmaster was abroad to insist upon a full articulation   Perhaps in the educated present day speakers would hardly be permitted to drop into a slurring of place-names like *Cirencester*, *Worcester*, or of person-names like *Marjoribanks* and *Cholmondeley*, if those names had hitherto been articulated as they are written.   But the case was otherwise when that gradual and tentative abbreviation was taking place which has ultimately resulted in the pronunciations *Cister*, *Wooster*, *Marchbanks*, and *Chumley*. At each stage of degeneration the pronunciation still served its purpose to the satisfaction of all concerned, and there was little or no educated consciousness to offer an æsthetic protest.

   Such is the history of easing and omission of sounds in all known tongues   Languages differ remarkably, it is true, in the extent to which they have carried the process.   The causes of this difference are probably, in some measure at least, racial and æsthetic   The quick social instinct and the tendency to rapid thought and a volubility or nimbleness of speech which are attributed to the ' Celts ' may be some explanation of the fact that French is particularly distinguished by the syncopation and curtailment which

Latin words have undergone in the language   While Italian
tarries at *medesimo* and *sicuro* as representatives of *metipsis-*
simus and *sēcūrus*, French has reached *même* and *sûr*
Facere has become the monosyllable *faire*, while the Italian
fare is still normally of two syllables.   In Greek losses were
comparatively slight, consisting chiefly, though not solely, of
an early disappearance of *w* and *y* (*u* and *ı*), omission of
final consonants, and contraction of vowels   Early Latin
tended to lose unaccented syllables, as in *prūdens* for
prŏvidens, *mōtus* for †*mŏvitus*, final *s*, *m*, and *e*, and often
one or more consonants from a group, *e g.* in *scālae*, which
stands for †*scand-slae*

   But a more tangible cause of difference in the degree of
loss is the difference in the nature and history of the accent
in a given language   The meaning of the two kinds of
accent, stress-accent and pitch-accent, has been explained in
the chapter on the production of speech-sounds.   A stress-
accent is due to greater vehemence of utterance, causing a
deeper amplitude in the vibrations of the vocal chords , a
pitch-accent is the effect of greater rapidity in the vibrations
The one produces greater loudness, the other a higher note
In every word which is more than a grammatical sign there
is at least one syllable which bears an accent.   In the
English *hūman* there is a stress-accent on the first, in
humáne on the second   In the Greek θέα (*théā,* ' spectacle ')
there is a pitch-accent on the ε, in θεά (*theá,* ' goddess ') on
the α   In Latin *monḗre* and *régere* differ in the syllable
upon which a stress-accent falls
   Now, had the principle of accentuation been alike for all
languages, they would have been much nearer than they
are in the degree in which they have come to abbreviate
their words by the omission of interior or final sounds.
Had they all been characterised by a stress-accent of equal
intensity and of similar position in the word, or by a pitch-
accent of equal height and similar position, then we might
(racial and æsthetic considerations apart) have looked for

much the same procedure in the matter of dropping syllables
which were unaccentuated, or of easing sounds which were
not adjacent to the 'chief tone' of the word   Thus primitive
Latin regularly placed a strong stress-accent on the first
syllable of a word, however long   Both in the nature of the
accent (stress) and in its position (on the first syllable) it
agreed with the present regular practice of English   Thus
primitive Latin said †*rétetuli*, †*cónfacio*, just as English says
óbligatory, *cómparable*   The consequence is that there is a
very close likeness between certain characteristic phonetic
phenomena of early Latin and of English   The strong
stress on the first syllable tended either to dull the vowels
in the weaker syllables which followed or else to cause the
entire loss of some such syllable   As the English vowels in
the unaccented syllables commonly became dulled to the
indeterminate *ə* (as in *cómpərəbl*), or a syllable disappears
(as in *óbligat'ry = óbligətri*), so in the aforesaid old stage of
Latin there was a dulling from e.g †*cónfacio* to *cónficio*,
†*nébela* to *nébula*, or the loss of a syllable, as in *réttuli* for
†*retetuli*, *ámputāre* for †*ámbiputāre*.   It is true that at a
later date the Latin accent, for obscure reasons, shifted its
position and receded, either to the last syllable but one, if
that vowel was long in quantity, or otherwise to the last
syllable but two   Thus the accent is then either as in
respondére, *bonitátem*, or as in *confícĕre*, *procónsŭlem*   Still
the accent was one of stress, and both its nature as such
and its position in the word were retained by the *lingua
romana* which was carried into Gaul and destined to become
French.   The history of slurring, syncopation, and curtail-
ment of the unaccented portions of words subsequently
repeated itself.   *Bonitátem, computāre, víridis, pópulus* became
bonté, conter, vert, peuple.   This process is identical with that
by which in English *Eoforwic* became *York* or *eleemosyne*
became first *aelmesse* and then *alms*

(Since, however, at a later time French has tended to
minimise the stress-accent or to replace it by a slight pitch-
accent on the last syllable, the result is a wide breach

between the modern English and French treatment of
unaccented syllables.   The tendency to slur them no longer
exists in French, except in the case of the accentless *e*
(which is really the indeterminate *ə*), as in *de, chemin,*
popularly pronounced *d', ch'min*   The force laid on one
particular syllable having been removed, its value is, as it
were, spread over the rest.   In contemporary French the
vowels *a, é, i, o, u* are therefore in every syllable duly pronounced
and audible as such ; whereas in English, which persists in
its strong accentual method, they all tend to merge in a
common indistinct *ə* when they do not happen to be in the
accentuated syllable   In the English *Arcady* the second
vowel is *ə*, in French *Arcadie* it is a distinct *a*

English, early Latin, and the older French, agreeing
as they do in the nature of the accent, also agree largely
in its phonetic consequences.   Meanwhile the accent of
classical Greek was not one of stress but of pitch   It
was 'musical,' not 'emphatic'   The acute accent-mark
upon a classical Greek vowel does not imply that the vowel
was delivered with more force, but that it was delivered on
a higher note.   The terms 'accented' and 'unaccented'
syllable therefore mean for classical Greek something
different from that which they mean for Latin or English.
It follows that the history of the Greek unaccented syllable
is also different.   Such collapsing of a word or curtailment
of a syllable as is frequent in Latin or English is scarcely
to be met with.   Where it does occur it is rather due to the
close similarity, if not absolute identity, of two adjacent
syllables, which causes the speaker to omit one of them
as if it had been already said   Thus ἀμφορεύς (*amphoreus*)
and κελαινεφής (*kelainephēs*), though manifest syncopations of
†ἀμφιφορεύς (*amphiphoreus,* 'with a handle on either side')
and †κελαινονεφής (*kelainonephēs,* 'black-clouded'), do not
primarily owe their abbreviation to the position of the
accent, but to the obvious cause just stated.[1]   One of the

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[1] This omission of one of two like syllables, found in Latin also, as in
tru(ci)cīdare, is technically called *Haplology*

distinguishing features of ancient Greek, as opposed to Latin, is its faithful retention not only of the accentless syllables, but also of the original vowels in them, and this difference of habit is chiefly, though not solely, due to the different character and effect of the respective accentuations of the languages   Thus a hypothetical original *bhéromos* would appear in ᵔGreek, with simply a musical accent, as †φέρομος (*phéromos*), while in Latin it would sink into *férimus*, the accent being one of stress and of such effort that the subsequent syllables suffer from a proportionate weakness

It is not, indeed, quite true that even words with a pitch or musical accent tend to experience no loss at all in the accentless syllables   In Greek comedy the fish-monger, who superciliously grunts out the price of his fish, pronounces ὀκτὼ ὀβολῶν (*oktò obolôn*) as 'κτὼ 'βολῶν ('*ktò 'bolôn*)   This is not, indeed, the accepted language, and it is actually given as an instance of slovenly curtness.   What it shows is that the phonetic tendency exists, though in a much less powerful degree, even with the tonic-accent of the Greeks   How far the counteracting of the tendency was due to a subtle ear and an acute æsthetic sense can hardly now be ascertained   The truth is that the difference of note which a pitch-accent represents is apt to become increasingly associated with greater energy also.   The other accentless syllables are pronounced evenly, but when we come to the syllable in which a peculiar note has to be struck, there is an impulse to deliver it with emphasis at the same time . This impulse grew in later Greek   Hence it has come about that in modern Greek the accent is no longer pitch, but stress.   In a word like ἄνθρωπος (*ánthrōpos*), the accent mark now represents what it would represent if we placed it on a syllable in an English word. As a consequence modern Greek, as actually spoken, has in its turn learned to abbreviate and curtail the older words, and to shorten or otherwise modify many of the older vowel sounds   *Stamboul, Stanclio* represent (ἐ)ς τὰμ πόλιν (ἐ)ς τὰν

Kῶ (*es tām pólɪn, es tān Cō*). Similarly the word ὀμμάτιον (*ommátɪon*) has been cut down to μάτι (*mátɪ*) This could never have occurred while the accent was purely chromatic.

Stress-accent and pitch-accent thus vary in their results. Yet if languages had throughout their history remained consistent in their use and placing of either one or the other, a survey of the phenomena resulting from 'economy of effort' would have been far more simple than it is. In reality a language may possess the one kind of accent at one stage of its history and the other kind at a later stage   As in Greek, a tonic-accent may be replaced by a stress-accent As in French, stress-accent may gradually become so weak that it is difficult to recognise it as such   Again, a language may at one period affect a particular position of the accent in every word, but may subsequently shift the position to a different syllable.   Latin has already been cited as an example   Had the accentuation which prevailed in historical times (as in *confícɪo*) been always in existence, the history of Latin words would have been very different from that which we find   Thus, at the date when *facɪo* was first joined to †*com*, the total †*cónfacɪo* took the vigorous stress-accent on the first syllable.   The unaccented *a* was in consequence weakened to *ɪ*   But, if the later system had then been in use, †*confácɪo* would before all things have retained the *a*, whatever other vowel might suffer.   Similarly, if the present French accentuation (or non-accentuation) had been in vogue when the *lɪngua romana* commenced with *vírɪde'* and *secúru'*, the cutting-down into *vert* and *sûr* could not have occurred.

Such vacillation in the nature and position of the accent is a common phenomenon in linguistic history   It is practically certain that at one stage the primitive Indo-European employed a strong stress-accent   It is in no less degree to be assumed that in its later stages, just before the various branches of the family spread apart, the accent was mainly one of pitch   Probably the two methods existed side by side.   In modern Swedish we meet with such a combination,

the high pitch without stress and the stress without high pitch being quite familiar in Swedish words. In the end the pitch-accent in the primitive speech appears to have prevailed, its position in the word being variable The changes in Greek and in French accentuation, as described above, are sufficient evidence of the possibility of alteration in kind within the same language Among the branches derived from the parent original we find Sanskrit and Greek continuing to employ the pitch-accent, while Armenian, Latin, Teutonic, and Celtic substitute the accent of stress. In point of position the Greek accent cannot be placed earlier in any word than the third syllable from the end, but within that limit it varies, sometimes according to rule, sometimes not In Sanskrit its range is more free In all Old Teutonic, in Old Latin, and in Old Irish its place is on the first syllable. The Latin accent subsequently shifted, as we have already seen. Among modern tongues of the Slavonic branch Polish lays the accent on the last syllable but one, while Tzech lays it on the first In modern English or German the old Teutonic principle still holds It is not, indeed, invariably observed, particularly in words compounded with particles, e g *besídes, without, forlórn*, although of these a special account can readily be given. Nevertheless the principle still holds so strongly that foreign words borrowed into English commonly shift their accent as they become naturalised Already in Chaucer the accent varies, as between *fórtune* and *fortúne*, although in general a comparison of his common use of the Latin-French accent in Anglo-French words, e g. *honoúr, coráge*, with the modern *hónour, coúrage*, is an object-lesson in the history of English accentuation The principle is well illustrated by *blásphemous, bálcony*, which were borrowed as *blasphémous, balcóny*. If there are instances to the contrary they are mostly explainable with ease *Humáne, projéct, frequént, refúse* are deliberately given an un-English position of the accent in order to distinguish them from *húman, próject, fréquent, réfuse* The latter have adapted their accent to the rule.

The former would have done the same if the question had been simply one of phonetic, as distinct from psychological, tendency.

While, then, accent ͘ plays the most important part in that weakening or abbreviation of the phonetic contents of a word which is attributed to economy of effort, and while all languages share to a larger or smaller extént in such abbreviation, it is clear that they do not agree, and could not be expected to agree, either in the extent to which they abbreviate or in the particular portions of the words in which the abbreviations occur The pitch-accent languages will curtail or syncopate less than the stress-accent languages The languages which accentuate at the beginning will lose or weaken other syllables than those affected by the languages which accentuate near the end Even those which have accentuated on the same syllable, as in the case of the Romance languages on their path from Latin, will vary in the amount and nature of their abbreviation. The loss in Italian, as has been remarked, is slight as compared with that in French We may therefore lay special weight upon the fact of a universal tendency to weaken unaccented syllables, but we cannot lay down any universal laws as to the degree or place of the weakening. Philologists may collect and tabulate the syncopations, curtailments and weakenings in a special language, and in some cases (particularly in French) they may establish regular phonetic laws for such occurrences in the language in question, but it is not possible to establish phonetic laws which shall be universal

By way of summary we may take a few further examples of some of the various forms of absolute easing and economy of energy which have now been enumerated —

(*a*) *Relaxings of Closure.*

$$k > ch \ (= t\check{s})$$
κυριακόν A S *cyrice* (i e. *kirike*, cf *kirk*)
$$> church.$$

A S *cild* > *child*

Lat. *Cicero* (= *Kikero*) > Ital. *cicerone* (*tšits-*).

k > *ch* (= *š*) L *campus* > Fr *champ*

         „ *caballus* > „ *cheval*

         „ *vacca*   > „ *vache*

k > *c* (= *s*), *s* (*z*) „ *Cicero*   > „ *Cicéron*

         „ *vicinus* > „ *voisin*.

     Gk. *κύκλος* L. *cyclus* > Eng. *cycle*

sk > *sh* (*š*) A.S *fisc*   > *fish*

       „ *disc*   > *dish*.

       „ *scacan* > *shake*.

g > *j* (*dž*) A S *brycg*   > *bridge* (= *bridž*).

g > *ž* ('soft *g*') L. *gaudere* > Fr *jouir*.

       „ *gener*   > „ *gendre*.

g > *y* A S *geolo* > *yellow*

     „ *geard* > *yard*.

       L. *ego*   > It *io* (from *i(y)o*).

       And in modern Greek.

t(i) > *z* L. *potio* > Fr. *poison*

t   > *s* „ *platea* > „ *place*.

       Older Greek †*δίδωτι* > *δίδωσι*

t   > *š* L. *potio* > Eng *potion* (= *pōšn*)

d   > *l* L. *olēre* (verb) but *odor* (noun).

       O.L. *dacruma* > *lacruma*

d   > *th* A.S. *to-gaedre* > *together*.

       „ *fader*   > *father*

       And so in modern Greek

di and *di* > *j* (*ž*) L *diurnum* > Fr *jour*

     I E **dieus*   > Gk *Zeús*

p   > *f* I E. **pod-*   > Eng *foot*.

     O Teut †*shap* > Germ *Schaf*

p   > *v* (through *b*)

       L. *ripa*   > Fr. *rive*

       „ *sapo(nem)* > „ *savon*.

b > *f* O. Teut †*kalb-* > Eng *calf*

b > *v* in early French and regularly in later Greek
(*e g* βασιλεύς, now pronounced *vasilefs*)

(*b*) *Omissions of final consonants*

In older Latin verse a line like *tum laterali(s) dolor certissimu(s) nuntiu(s) mortis* is scanned as if the -*s* were absent in each case. It is obvious that in current speech it was not audible   The same applies to -*m*.   Hence in the pedigree of Romance words it is necessary to begin with forms (accusative) like *securu, amicu, actione* (It *sicuro, amico, azione*), not with *securum, amicum, actionem*   Before this stage Latin had also lost sundry other final consonants, as in *lac* for †*lact, ager* for †*agers, esto* for *estōd*   Very early Greek dropped all final consonants except -*m* (which it turned to -*n*), *r*, and *s*   Modern Greek tends to drop even these (ἄλογο = ἄλογον)   French regularly leaves final *f, b, p, d, s, t, z* unpronounced, except when there is liaison with a following vowel   English also has lost final consonants which were once heard, as in the adverbial termination -*ly* (formerly -*lic*), in *I(c)*, *plou(gh), hi(gh), day* (= *daeg*), *woodbine* (= -*bind*), and in the -*e(n)* of old infinitives and other flexions. Similarly *hussy = hus-wi(f)*.

(*c*) *Omissions of final vowels* (normally only in syllables not bearing the accent [1]).

In Old Latin such loss was occasional, e g. *cálcār(e)*, *ánimāl(e), vólup(e), sáti(s)n(e), átqu(e)* (whence *ac*).   In French the final Latin *a* passed into *e* (*ə*), and this was quite audible in the older stage of the language   It is now mute   Thus L *porta* > *port(e), femina* > *femm(e)*. Other Latin vowels in the same situation have either left no trace at all (e g. F. *mer* = L. *mare*) or have also passed through *ə* to *e*-mute.   In Middle English the Anglo-Saxon vowels, used as flexional terminations, all

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[1] Technically called *apocope*.

became *e(ə)*, which was heard as a syllable and must be so pronounced, though not with strict regularity, in Chaucer   Thus A.S *steorra*, Mid Eng. *sterre* becomes *star*; *heorte* becomes *heart*, *sunu* becomes *son*.   So in flexion *heard* = *herde*, *fed* = *fedde*.   German has been subject to similar loss in its nouns, e g *Herz*, *Sohn*   After the English infinitive and the plural verb in *-en* had first passed to *-e* that termination went on to leave no trace at all in the spoken language. Thus *com(e)* = *come* = *comen*.   In modern Italian a tendency, not merely colloquial, is to drop a final *e* in the infinitive and to pronounce *far* for *fare* and the like.   So *un* = *uno*, *del* = *dello*, etc

(d) Omission of syllables not bearing the accent
The initial syllable disappears [1] in *e g* —

> L *históría* >It *storia*, Eng *story*
> „ *epíscopus* > Eng. *bishop*
> „ *hydrópsis* > „ *dropsy*

So *(di)spénd*, *(de)spíte*, *(e)gípsy*, *(a)ván(t)guard*, *(en)gín*, *(ap)péal*, *(e)squíre*, *(op)pósal* (i.e. *puzzle*).
In the interior of the word syncopation has already been shown to be exceedingly frequent.   Further examples for English are *monk* (= A.S. *munec* from *monachus*), *fortnight* (= *fourteennight*), *kerchief* (= *coverchief* from F *couvrechef*), *palsy* (= *paralysis*), *proxy* (= *prócuracy*), *lord* (= A S *hlafweard*, 'loaf-keeper'), *sheriff* (A S. *scirgerefa*), *Friday* (= *Frigedaeg*) , for French *frêne* (L. *fráxinus*), *Loire* (L *Ligeris*), *âge* (= *edge* = *edáge* = *aetaticum*), *âne* (= *ásinus*) , for Italian *donna* (= L. *dómina*), *verde* (= *viridem*), *venti* (= *viginti*), *città* (= *civitátem*), *fare* (= *fácere*) ; for Latin *nundinae* (= †*nóvendinae*), *princeps* (= †*prímiceps*)

(e) Assimilation of neighbouring sounds is too common a

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[1] Initial omission is called *aphesis* by Dr Murray when a vowel only is lost, but *aphaeresis* when the syllable contained more than such a vowel

phenomenon to call for much illustration. The process may be seen in English *ant* (= †*amt* from A S. *aemete*), *women* (i e. †*wimmen* = *wifmen*), *gossip* (= †*godsib*, 'relative in God '), *Lammas* (= A.S *hlafmaesse*), *cupboard* (pronounced *cubbṛd*) , in French *nourrir* (L *nutrire*), *assez* (= *ad-satis*) , in Italian *freddo* (= *frig(i)dum*), *donna* (= *doṃn(i)na*)

(f) *Development of glide-sounds*

We have already cited the word *humble*, the French *cendre, gendre, tendre*, the Greek ἄνδρες, and the Latin *exemplum*. We may add the Latin *sum(p)si, em(p)tum* (from *sumo, emo*), the English *em(p)ty* (= A S. *aemtig*), *gam(b)le, crum(b)le, tim(b)er*, the French *sembler* (= †*semler* from L. *simulare*), and the Italian *sembrare* (= †*semrare*)

These classes of ' corruptions ' are here given as the chief, but by no means as the only, forms of easing to which all languages alike are prone. It would be beyond the scope of the present work to proceed further into details or to accumulate a larger mass of illustrations

It has been a fashion to speak of this gradual contraction, erosion, attrition, or ' weathering-away' (*Verwitterung*) of words as the effect of ' laziness ' The term is ill-considered. ' Laziness ' implies a moral reproach, which by no means attaches to the gradual and unconscious abbreviation and easing of language. ' Laziness ' implies an inclination to do as little work as possible , but a little observation will show that speaking is not one of the forms of work from which human beings ordinarily shrink The nation which in modern times has cut down its words beyond all others is that of the French, but it can hardly be held that the French are ' lazy ' speakers. Their vocal organs are conspicuously anything but indolent. Moreover, persons who are fond of using the longest possible words and of hearing themselves speak are

often among the least exact of articulators. They must be charged with something else than laziness

That there is such a thing as laziness of speech is, of course, not to be denied *I dunno*, for *I don't know*, when delivered with a slow drawl, can hardly be described otherwise. On the other hand, the shortening of *cabriolet* to *cab* and of *omnibus* to *bus* was partly the outcome of humour— a sort of Cockney smartness, like that which uses *phone* for *telephone* Underlying such abbreviation is the assumption that the one syllable is sufficient for any ready apprehension. There is a sort of compliment to the respective intelligences of speaker and hearer 'As between you and me there is no need to give the full and pedantic name , *phone* and *bus* are much handier, and also show that we are on the most familiar terms with the thing in question' We need not commend this practice, but it is clearly a misuse of terms to call it laziness.

There is in language, as elsewhere, a survival of the fittest This does not mean necessarily an æsthetic fittest, but only a phonetic and grammatical easiest The aim of language is to communicate thought. That style of language which can be used to this end with the quickest effect and with the least strain upon speaker and hearer is the style which will develop itself everywhere, unless some artificial check be put upon the natural evolution A people of nimble thought and vehement desire to impart it, such as the 'Celtic' French, will unconsciously economise the sounds in a given word, not through any unreadiness to exert the vocal apparatus in producing it, but through eagerness to reach the next word and the full sense. The condensation of the eleven syllables of *eccistu(m) homine(m) metipsis-simu(m)* into the three of *cet homme même* is in reality a most distinct progress in language The main agent in the change has been, not slovenliness, but rapidity. When human beings sharpen their tools or take short cuts to avoid roundabout roads we do not brand their 'economy of effort'

as laziness   The man with the sharper tools can perform
the greater amount of work, and the man who takes short
cuts can accomplish the greater distance.   The parallel is
not, of course, complete, since the sharpenings and short cuts
of language are less conscious, if conscious at all   Neverthe-
less the influences and the effects are the same.   Language
works out its evolution in phonetics as well as grammar
So long as the apprehension can fairly meet the speaker,
the shortest and simplest means are gradually selected as
the best   The stop to abbreviation comes when the word
threatens to be unintelligible

Street cries, such as ' O' Clo',' have sometimes been
quoted as illustrations of the tendency to laziness in language.
But what is the case with these ?   ' Sir,' said the crier of
' O' Clo',' when reproved for his indolence, ' I can say " Old
Clothes " as well as you, but if you had to cry " Old
Clothes " a hundred times an hour, you also would say
" O' Clo' " '   And, if he had done so, it would have served
equally well.   The hearer would have apprehended the
meaning, and nothing would have been gained for either
party by the very considerable labour undertaken by an
over-conscientious tongue   In point of fact ' O' Clo' ' in this
connection ceases to be language , it is merely a symbolic
cry, and is treated as such by all concerned.   To make a
point of clearly articulating ' Old Clothes ' at each delivery
would be conscientiousness of the kind displayed by the
actor of Othello who blacked himself all over   In this case
' laziness ' is the wrong word.   The proper term is ' con-
venience,' and the economy of effort commends itself to
common sense

This is, indeed, an extreme case , but, returning to
language proper, we have again to consider two parties—the
speaker and the listener   The speaker is naturally disposed
to deliver a word according to the sound-picture which exists
in his own mind and which he believes to exist in the mind
of the hearer.   In ordinary circumstances he is thinking of
what he is saying, not examining the precision of his own

articulation. Meanwhile the listener also is primarily attending to what is said, not to the precision of the speaker's utterance. Only in cases of exceptional aberration will he comment, either inwardly or openly, on the deviation from the normal But all those aberrations in the direction of weakening and shortening which are eventually to win the day begin faintly, and occur in those places in the sentence where they are most natural and where they will be least marked Sometimes, it is true, they arise from mere indolence or a sullen slovenliness of the vocal operations, as in the famous Scottish *a' ae 'oo'* for *all one wool*, more commonly, however, they are the effect of quickness and fluency The same aberrations will occur for the same reasons with numbers of speakers. Gradually the sound-picture in the mind comes to adapt itself to these cases, and to the next generation of both speakers and listeners this represents the normal Developments of the same kind follow each other, little by little, line upon line, and no one is really conscious of the change which is taking place In ordinary conversation *Old* could not at once be contracted to *O'*, nor *clothes* to *clo'*, though each is the kind of contraction to which the French language would have brought such an expression if it had inherited it from Latin The speaker is not, like the street-crier, repeating the expression till the same muscles of the oral passage are wearied He is not, like the street-crier, using a merely symbolic utterance explained by his situation He has no temptation to shorten these words more than any others ; while, if he were to shorten all others in an equal degree, he would become hopelessly unintelligible Yet in rapid speech, entirely intelligible to the listener, he may perhaps glide rather easily over the *d* of *old*, and the *th* of *clothes* may, without the knowledge of either party, be somewhat slurred. The physiological reason for these glidings and slurrings on his part will at the same time exist in most other persons, and the ear will gradually become accustomed to something like *ol' close.* Such has been, in fact, the vulgar pronuncia-

tion of England, until the artificial reactionary influence of education was brought to bear   Yet 'laziness' is an unfair name for the cause, as it would be for that of our having reduced the capital letters of print to the cursive shapes which run so easily off the pen.   These were not deliberately invented to save trouble ; they have simply developed themselves by right of their fitness in the way of rapid efficacy.

Hitherto the practical necessity for clearness of understanding has been almost the only check upon the full play of this convenience.   In more recent and educated times the existing words and uses of a language have come to be regarded as objects calling in themselves for an alert protection, of which the motive is merely æsthetic or sentimental.   This spirit, though it can never completely arrest change in language, will necessarily act as a drag upon its natural tendencies.   It would be futile to prophesy further as to its effects.

CHAPTER XV

APPLICATION OF PHONOLOGY TO ETYMOLOGIES

IF the foregoing chapters have been written to any purpose, it will be sufficiently manifest that a word as it now exists may have travelled a long and eventful journey from its primitive shape Enough has been said to show how both change and loss may occur repeatedly, until a polysyllabic word becomes the most curt of monosyllables, and may contain, as actually pronounced (for the spelling is obviously not the first question), not a single letter of the original form Though attention has been directed mainly to the change in consonants and to entire loss of sounds, it is to be understood that the vowels suffer complicated change, as well as loss, equally with the consonants. The English word *five* (pronounced *faɪv*) is to be derived from an Indo-European **penqe*. But *faɪv* contains not one vowel or consonant found in **penqe*. The word *ewe* is by derivation the same as the Latin *ovis* The original form was **owis (oụis)*, and, of the various sounds in this word, the English *ewe* (= *ɣū̆*) contains none There is no sign whatever in *ear* that it is etymologically related to the Greek οὖς (*ous*), nor in *be* to show its connection with the Latin *fu(i)*, *fu(turus)*, or with the *phy-* in *physics*, nor is there any sign in *hund(red)* to relate it at once to ἑκατόν (*hekaton*)

Again, no one would naturally suspect that the demonstrable equivalent of *come* was to be found in the *-ven-* of *invention* and the *ba-* of *basis*. In these instances the

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original was *g̥m̥*, and it is the Latin and Greek which have made the wider departure

Very frequent are the instances in which, as between two languages derived from ᶜa common source, one letter may perhaps still be common to both, whereas there is no other likeness in the general body of the words　Thus F. *larme*, Eng. *tear* (ı.e *tīr*) agree only in the retention of *r*　The original was **dakru*, which took an Anglo-Saxon shape *tear*, but a primitive Latin shape †*dacru*　To this a later stage of Latin added a suffix *-ma* and subsequently converted (as it sometimes does) *d* into *l*　From the classical Latin *lacrima* is derived *larme* by the regular French process of syncopation.　The English *four*, Germ *vier* show the same *r* as the Greek τέτταρες (*tettares*), but bear no further resemblance to that word　*Quick* (originally 'alive') has one letter in common with the Greek βίος ('life,' as in *biology*). Greek γυνή (*gunē*), Eng. *queen* agree in *n* only.　For Latin *sōl*, Greek ἥλιος (*hēlios*) a common basis lay in **sāu̯el-*, but *l* is the only sound of the five which both languages have preserved.　That *sol*(*ar*) and *hel*(*iac*) should ultimately converge in their history is not one of those facts which could readily be guessed　*l* also is the only letter left in common to Eng　*hazel* = Lat. *corulus*, or *gall* = Lat *fel*

In other cases, while each may retain one sound or more of the original, those which happen to be retained or changed may be precisely the contrary in the two languages, and there may be nothing left to indicate to eye or ear that we have two derivatives from the same original　Thus the word *sit* appears to have no affinity whatever with (*cat*)*hed*(*ral*). Yet *sit* and -*hed*- are the respective English and Greek shapes acquired by an original **sed*.　While English keeps *s* and changes the rest, Greek keeps the rest and changes *s* to a light *h* (ἕδρα = *hed-ra*, 'seat')　For the English *goose* and Greek χήν (*chēn*) the original was **ghans*　Of this, English shows only the *s*, Greek only the *n*, while the other sounds have been modified in each　Meanwhile *ans*(*er*) of Latin

agrees with the English in only one letter, and with the Greek in only one other.

Though these are not some few extraordinary instances culled for a purpose, and though it would be very easy to add to their number, it is of course more common to find a divergence somewhat less extreme, but striking nevertheless Thus the Greek δαρτός (*dartós*, 'flayed') is the cognate of *tor(n)* , Lat. *frac(tus)* of *brok(en)* ; *sūd(or)* of *sweat* ; *sord(idus)* of *swart* , *lingua* of *tongue*. So far as the consonants are concerned (in the roots) the words are originally identical ; the vowels, where they are not absolutely identical, are recognised gradations of each other.

The general influences which have been at work in thus disguising words are those previously described, viz. omissions, curtailments, assimilations, and other easings But it has already been insisted that each language possesses phonetic laws of its own, and that, though it cannot be absolutely demonstrated that these are invariable for that language, they do operate with an extremely high degree of regularity. In all the instances already given in the present chapter (though they have by no means been selected with that consideration chiefly in view) the philologist is in a position either to state the phonetic law which each vowel and consonant obeys, or else to render an account of such departure as may occur therefrom. So far, indeed, does the regularity of phonetic law extend, that in most cases the exact forms in the several languages might be prophesied by one who had studied the laws but had never met the particular words. The analogical instinct—a mental inter-ference to be treated of hereafter—has indeed modified the Greek form χήν (*chēn*), for which uninterrupted phonetic law would have produced *χᾱς (*chās*) With our present knowledge we should also have been doubtful whether to expect *dacruma or lacruma, *dingua or lingua in Latin , but, given the form in the first column of the following list, we should (dealing with the consonants only) at once

postulate the form which follows in the second for the language there concerned ·—

1	2
Eng *s(z)t*	Gk *h(e)d*
„ *br(o)k-*	Lat *fr(a)g* (but *c* before *t* by assimilation)
Lat. *(h)(a)ns(er)*	Eng *g(oo)s(e)*
I -E **su(e)rd-*	Lat *s(o)rd-* , Eng *sw(a)rt*
„ **suord-*	„ *sūd-* , Eng *sweat*
„ **dengua*	„ **dingua* or *lingua* } Eng *t(o)ngue*
Eng *b(e)*	„ *f(u)-* , Gk *φ(v)-*

The detailed rules, together with those for the vowel correspondences, do not belong to a treatise of this kind, but to more specialised works   It is important here merely to observe that there can be no sound etymological method without a knowledge of the phonetic laws of the languages concerned and a strict working assumption that their operation is regular.   The theory of an irregularity is only to be attempted when it can be reasonably accounted for, on the ground that analogy, tolerably self-evident, has diverted the form in question, or else that the word is borrowed from another dialect or language, to whose phonetic laws it can be shown to conform, or from which it might naturally be taken with a characteristic mispronunciation

Where it is urged that the pertinent phonetic laws may not yet be fully known and that the suggested etymology is provisionally good, it must at least be demonstrated that any supposed change (or series of changes) which has brought the word to its present shape is physiologically probable— that is to say, is in keeping with what we know of the processes of sound-change.   That *p* may become in certain cases *b*, *f*, *m*, or *v* is a known fact which may be utilised, but an interchange of *p* and *r* or *l* or *s* is out of the question.

"A sound etymology," it has been epigrammatically said, " has nothing to do with sound "   It has, however, everything to do with the sounds.   That one word does not now sound

in the least like another (as in the instance of *goose* and *anser*, *five* and *cinq*) is, indeed, no disproof of their common etymology. Neither, on the contrary, is it any proof of a common etymology when two words of similar meaning sound alike, as in the case of English *call* and Greek καλ-, *whole* and ὁλ- (*hol*-), Greek θεός (*theos*) and Lat. *deus* In this sense it is correct to say that sound-etymology has nothing to do with the sound But, while this is true, the identity of *five* and *cinq* is only to be accepted in the light of the discoverable (or at least scientifically assumable) past history of their several sounds , and the gradual divergence of the original *penqe into these two strikingly unlike forms must be traced convincingly through a series of steps in sound-change, each natural and intelligible in itself, first on general principles, and second according to the phonetic laws of the speeches in question. If a definite phonetic law for a particular step is not yet forthcoming, the reasonableness of the assumed shifting must be proved by other examples of the same phenomenon or of one closely analogous Thus, to go backwards in time, *five* (*faiv*) is a modification of *fīf*, *fīf* of *fimf*, *fimf* of *finf*, *finf* of *penqe Beginning with *penqe, the change of the first vowel from *e* to Teutonic *i*, and of the consonants from *p* to *f* and *q* to *f*, is in accordance with law. The labial *f* further assimilates the dental *n* and makes it labial *m* (as in Greek πέμπτος, *pemptos*, for †*penptos*) The loss of the final syllable *e* is the common effect of the Teutonic stress-accent on the previous syllable. The subsequent loss of the nasal *m* in Anglo-Saxon and the consequent lengthening of the vowel is illustrated by e.g. *gōs* (*goose*) = †*gons*, *tōth* (*tooth*) = †*tonth.* The further modification of *f* to *v* (*fīv* for *fīf*) is common (as in *of*, pronounced *ov*) If we deal in the same way with *cinq*, our steps backward are *cinque*, *quinque*, †*pinque*, †*penque.* By a phonetic law of Latin *e* before *nq*, as before some other consonantal combinations, becomes *i*. The step †*pinque* having occurred, or while it is occurring, the labial element in *qu* attracts (or assimilates) the pronunciation of the *p*, and

quinque is substituted. (The same thing takes place in
†*pequo*, ‘cook,’ which passes to †*quequo* and thence to *coquo*)
Possibly also the *qu* of the previous numeral *quattuor*
(‘four’) influenced the change of form. In the transition
from Latin to the Romance tongues the initial *qu* here
becomes *c* (*cinque*), and this in French, before *i*, is pronounced
s. The final syllable disappears in consequence of the stress-
accent which formerly existed in French as in English.

This example is much less simple than many which
might have been chosen Take, for instance, the word *loud*
as compared with the Sanskrit *śrutás* Though these
possess no sound in common, they are (except for the
particular grade of the root vowel) identical words according
to the perfect operation of the phonetic laws of their re-
spective languages. Through *loud, hlūd,* †*hlūd(a),* †*hlūthá(s)*
we arrive at an original **k̂lutós* In Teutonic the *o* changes
to *a*, the sound-shifting of the stops (‘Grimm's Law’)
produces †*hlūthás*, the position of the accent (‘Verner's
Law’) changes *th* to *d*, the adoption of a strong stress-
accent on the first syllable causes the loss of the second
From Anglo-Saxon *hlūd* the initial *h* before a liquid
disappears, as in (*h*)*raw,* (*h*)*riddle* (= ‘sieve’), the Anglo-
Saxon *ū* regularly becomes in modern English *ou*, as in *cow*
(= *cū*), *mouse* (= *mūs*) Meanwhile the same original
**k̂lutós* (with a weaker root vowel) will in Sanskrit become
letter by letter *śrutás*. Every change in these words could
be foretold by the comparative philologist. Ask him what
would naturally become in Sanskrit of a word **k̂lutós*, and
he will reply *śrutás*, for **k̂lūtós* he would predict the exact
English form *loud*. To express it otherwise, in Anglo-Saxon
k̂ will have become *h,* *lū* will remain *lū*, *t* before the accent
will have become *d*, the accent will have shifted to the first
syllable, and the second syllable will be lost. Hence *hlūd*
must be expected For modern English *h* in such a position
will have vanished, *ū* will have become *ou*, and *loud* is
practically the inevitable shape of the word.

It is somewhat misleading to say, as is often said, that sound etymology must not assume any intermediate step of which there is no historical proof   Doubtless an etymology is made the more certain by a complete series of discoverable connecting-links.   The relation of *loud* to *śrutás*, as to the Greek κλυτός (*klutós*) and the Latin (*in*)*clutus*, is undeniably made surer by the ˌexistence of the Anglo-Saxon *hlūd*   If all record of an Anglo-Saxon *hlūd* had been lost, the theoretical history of *loud* might have been somewhat less convincing, especially if it were pleaded that the meaning of *śrutás* is not 'loud,' but 'heard,' while of κλυτός and (*in*)*clutus* it is 'famous.'   The intermediate step *hlūd* might indeed have been postulated with the greatest plausibility as strictly in keeping with phonetic laws, but it would after all have been regarded as but a highly probable assumption But, with *hlūd* actually before us, all reasonable doubt is removed, and, in respect of the meaning, *loud* signifies that which is distinctly 'heard,' while 'famous' is that which is much 'heard of.'   It is manifest here that, even if we had lost *hlūd* and were compelled to assume it, the etymology would still in fact be correct ; it would, however, hardly be regarded as proven

While acknowledging this, it is nevertheless necessary to amend the statement that no purely theoretical intermediate step must be assumed, and we must rather say *that any assumed step must be in itself of a nature which might have been anticipated, and that no considerable number of such steps must be assumed together*   There must be no jumping of wide chasms.   We should, for example, not be justified in deriving *même* from *metipsissimus* if we did not possess either certain steps in French itself, e g. *mesme, meesme, medesme* or the cognate Provençal *metessme* and Italian *medesimo*.   But he would be a timorous etymologist who, having before him *même, metessme,* and *medesimo,* would shrink from advancing a hypothetical *medesme* as an intermediate step in French. His justification would be that a *medesme* would necessarily become *même*, and that the existence of the obviously

cognate Provençal and Italian words fully warrant the assumption of the supposed Old French form closely resembling them In other words, *medesme* is virtually proved by *metessme* and *medesimo*, and, if *medesme* did exist, then its modern shape would be *même* Bréal rightly says " scientific etymology does not consist in a vague statement of the affinity which may exist between two words , it must track out, letter by letter, the history of the formation of a word, and show all the intermediate stages through which it has passed." But this must not be taken to mean that none of the stages whatever shall be hypothetical, and that we must have before us documentary evidence of each and every successive phenomenon in the history of the word in question It means that a complete series of the steps, either documentary or assumed, between the termini of the history must be set out, and that each step must commend itself to the trained investigator as entirely probable When Ménage derived the French *rat* from Latin *mūs* ('mouse') by the facile process of forming from the stem *mūr-* the participle †*mūrātus* and cutting this down to †*rātus* and thence to *rat*, he managed to violate every canon of etymology. Without treating this amusing effort too seriously, we may employ it in illustration of method †*Rātus* could not become *rat*, †*mūrātus* could not become †*rātus*, and †*mūrātus* itself is an absurd formation which existed only in an untaught imagination In French †*mūrātus* would have become †*muré*. Had there been such a thing as a French †*muré* Ménage might have postulated a late Latin †*mūrātus*, but there was no such word in French and no equivalent of it in any cognate language Guesswork, pure and simple, has no place in etymology.

It is somewhat difficult to define the exact limits of the use of hypothesis We may perhaps state them thus *There must be no assumption of a hypothetical intermediate form which is not actually pointed to by some cognate language, or which is not at least precisely the form indicated (by the phonetic laws and formative practices of the language) as a*

practically inevitable stage if the suggested derivation of the word is correct   In the case of †*mūrātus* we have an imaginary form not only pointed to by no cognate speech, but also so far from being indicated by phonetic laws or formative practice that it is actually in conflict with them The French *écurie* means 'stable' and *écuyer* 'squire,' and a connection with the‑Latin *equus* 'horse' would be one of the most natural of empirical guesses   Unfortunately the Lingua Romana used *caballu'* and not *equus* for 'horse,' and, though this objection might be overcome, the intermediate formations linking *écurie* or *écuyer* to *equus* are absent from either French or its sister speeches   If *equus* had formed any derivatives in the sense of 'place for the horse,' 'man to tend the horse,' those derivatives could never have been of such a shape that *écurie* and *écuyer* could develop from them In reality *écurie* is derived from a Teutonic source, represented in Low Latin as *scuria*, while *écuyer* is from the late Latin *scutarius*   If it be asked how far hypothesis of intermediate forms is required even by these derivations, the answer is that the older French *escurie* is actually extant, and that this is on the one hand the necessary shape given to *scuria* in old French, and, on the other, can only be represented by *écurie* in the modern tongue.   There is no assumption in the case   But in deriving *écuyer* from *scutarius* there must come in the hypothesis of a non‑extant early French †*escudier*.   By what is this warranted?   First by the existence of a Provençal *escudier* and Italian *scudiere*, second by the appearance in older French of the form *escuyer*, and third by the fact that *scutarius* would regularly or almost inevitably produce †*escudier*, while this would as regularly proceed to *écuyer*   If we suppose a word *scutarius* to be known, but no Provençal *escudier*, Italian *scudiere* or old French *escuyer*, it would be a highly plausible derivation, based purely on a consideration of the meaning and of phonetic laws, to suggest the series *écuyer*, †*escuyer*, †*escudier*, *scutarius*, with the intermediate steps thus hypothetically assumed   Each step would be phonologically accurate, but

the etymology, though extremely probable, would lack something of absolute convincingness.

Utterly unconvincing must be the etymologies in which a mere general and superficial resemblance of two words and some approximation in sense are treated as sufficient, while the connecting links, if suggested at all, are without evidence from cognate tongues, from phonetic laws, or from general probabilities as to their formation. Of this kind were the usual efforts of the old etymologists, from the time of Greek philosophers like Plato or Roman grammarians like Varro down to a very recent date A Greek, having no conception of the kinship of tongues, naturally derived his words from Greek sources Possessing no knowledge of phonetic laws and little regard for even the commonest phenomena of sound-change, he was attracted by any slight correspondence of form which seemed to go with an imaginable connection of meaning Plato's *Cratylus* is full of amazing assumptions, sometimes amusing and often ironical Aristotle, with a more cautious temperament, nevertheless finds in χαίρειν (*chairein*), 'rejoice,' the natural source of μακάριος (*makarios*), 'happy,' simply because of a measure of likeness in the syllables καρ- and χαιρ- and an association of sense. Again, he derives δίκαιος (*dikaios*), 'just,' from δίχα (*dicha*), 'apart,' assuming that justice is the act of due partition In reality δί-χα is a formation from δι-, which is akin to δίς, 'twice,' and to the *twi-* of *be-twi-xt*. The primitive source is **dwi-*. But δίκαιος is the adjective of δίκη (*dikē*), 'justice,' its original sense being that of a proceeding 'shown' or taught. The primitive source is **dik-*, the root from which is derived our own word *teach*.

Although the discovery of etymologies became a recognised part of Alexandrian linguistic study, its procedure was still hopelessly unscientific In legend the ark of Deucalion rested on Mount Parnassus. Now an ark is λάρναξ (*larnax*) , hence, it was said, came the name of the mountain. That the sound *l* cannot pass into the sound

p was a truth unknown and therefore offering no difficulty
It is true that we once meet with such a remark as that "*i*
is never turned into *a*," but this rational proviso is
exceptional for the times.

After the Revival of Learning in Europe the case was no
better. On the one hand, theological study revived the
notion of deriving modern European words from Hebrew
This practice had already prevailed in the days of Jerome
or Origen, when absorption in the new religion and the
Biblical view of the history of mankind invested Hebrew
with a false character as the primitive language It was
renewed under the same impulse when the Reformation
had turned theological reading back to the Hebrew Old
Testament The derivations of the seventeenth century
attempted under this impression are amazing in their
ingenious absurdity. On the other hand, the revived study
of the classics brought into prominence the affinities of
Latin and Greek, and etymological guesswork ran its course
in the connecting of these languages with one another and
of both with Hebrew or modern tongues Curtius quotes
Scaliger's equation of Latin *pulcher*, 'beautiful,' with Greek
πολύχειρ (*poluchēr*), which happens, however, to mean 'many-
handed' Voss again identified the Latin *sĭmĭlĭs*, 'like,' with
the Greek μιμηλός (*mīmēlos*), 'imitative,' and *vello*, 'pluck,'
with the Greek τίλλω (*tillo*) of the same meaning. It is
unfortunately probable that even at the present day the
impossibility of these equations will not be realised by those
who have made no study, first of general phonology and
then of Greek and Latin phonology in particular. But one
who has made the first steps in such study will know that if
the true equivalent of τίλλω (*tillo*) appeared in Latin it would
be †*tilio* or possibly †*tillo*, and that *t* and *v* can in no case
have anything to do with each other. On the other hand, if the
true equivalent of *vello* appeared in Greek it would be εἴλω
(*eilo*) or possibly ἔλλω (*ello*). In the other instance, μιμηλός
would in Latin be †*mīmēlus*, and in no case could the *s* answer
to the *m* or the vowels to each other It is little wonder that

Voltaire described the etymology of his day as a science
in which "the vowels count for nothing and the consonants
for very little" In modern etymology every vowel and
consonant counts as an element of separate importance.

Sound etymology, then, is based on a knowledge of
phonetic principles, and in especial of the phonetic laws of
the languages concerned (A connected chain of meaning,
it will be understood, must be ascertainable or rendered
probable by similar examples; but that point is here
assumed, and it is comparatively little that etymologists
have sinned, like Scaliger with his *pulcher*, against this
obvious canon) Intermediate steps, when hypothetical and
assumed, must justify their assumption, if not by positive
evidence from cognate languages, by their convincingness
from both a phonetic and a formative point of view. Sound
etymology, therefore, has everything to do with sounds But
when it is remembered how various are the phonetic laws
of different tongues in respect of both vowels and
consonants, and how variously also they have abbreviated
their words at beginning, middle, and end by reason of
differences in the nature and position of their accent, it must
be evident that a word inherited by one language from its
primitive ancestor will in all probability become extremely
unlike the same word as inherited and changed by another
branch. When a word of similar meaning in native English
looks strikingly like a word of native Greek or Sanskrit, it is
well to look upon the etymological identification with doubt.
If the one language can be shown to have borrowed the
word from the other, the case is of course simple, as when *pain*
and *age* are borrowed from French *peine, âge*. But when a
search into the history of the respective languages shows
that the words are to be supposed native to each, a very
close similarity is generally a note of warning. The French
feu and German *Feuer* both mean 'fire.' Superficially they
would appear to be the same word. But when investigation
shows that neither language has borrowed from the other,

the etymologist will take their very agreement in *feu-* as in itself a proof that the words were originally very different, and that they have only reached an accidental similarity of shape as well as of meaning through the operation of different phonetic laws That is to say, a primitive word which could produce *feu* in French could not produce *Feu-* in German , but one primitive word might result in *Feu-* in German and a different primitive word might result in *feu* in French, while at the same time the meanings might chance also to meet In reality the French *feu* represents the Latin *focus*, with the meaning of the 'hearth' or 'fire-place,' and thence the 'fire,' whereas for the German *Feuer* we must according to Grimm's Law assume a primitive initial *p, as found in the Greek πῦρ (*pūr*). The development of the Teutonic word is |*pûr*, †*fûr*, *feuer* ; of the French word it is *focus*, |*fuocu*' (It *fuoco*), *feu*. We cannot at present get back to the Indo-European primitive for the Latin *focus*, but it certainly did not begin with *$pu-$ nor contain that syllable.

It is not indeed to be flatly asserted that there can be in no case such a thing as identity of form between two languages in regard to the same inherited word, after all their respective phonetic laws have operated upon it. The English *star* happens to correspond to the Sanskrit *star-*, inasmuch as an original *$star-$ has eventually come to take that shape in each tongue. Yet in Anglo-Saxon *star* was *steorra*. But such accidental coincidences are of the greatest rarity, and for working purposes the rule holds good that identity or very close similarity of pronunciation is commonly either a sign of borrowing or else indicates (despite all apparent connection of meaning) that the words in question are of different origin. The English *whole* (i.e. *hōl*) has the meaning of the Greek ὅλος (*holos*). But *whole* is in Anglo-Saxon *hal* and ὅλος represents an earlier *$solyos$. At these stages the resemblance vanishes.

Perhaps enough has now been said to guard against hasty

or unscientific etymologising. It seems advisable, however, in this connection to follow the example of Max Muller in summarising four chief phenomena as affecting etymology on its phonetic side. They are these.—

(1) Under the operation of phonetic laws the same original word may take different forms in different languages

As has been shown above, it is truer to say, not that it may, but that it nearly always will and must, when the languages have followed a separate existence for any considerable period. The Latin *focus* becomes French *feu*, Italian *fuoco*, Spanish *fuego*, *filius* becomes French *fils*, Italian *figlio*, Spanish *hijo*, and such differentiation must in most cases almost necessarily occur, so long as phonetic operations alone are involved. Even where two languages appear to possess the same form, it is more commonly the case that the identity is only an identity to the eye, not to the ear. The words look the same without being the same. Thus it is incorrect to speak of the German *Hand* as identical with the English *hand*. Neither the *a* nor the *d* are pronounced in the same way. Phonetically written the English word is *hænd*, the German is *hant*. If we go beyond languages of the same branch (*i e* beyond a comparison of a Romance tongue with a Romance tongue, or of a Teutonic with a Teutonic), and compare a speech of one branch with a speech of another, we must expect to find a still wider divergence, and we may even arrive at such complete unlikeness as that already exemplified in *goose, anser,* χήν.

(2) The same word may possess different forms in one and the same language.

This, it is true, could not occur through the simple operation of the phonetic laws of the one dialect. If the language in question were developed consistently from one dialect without interference from any other, there could arise no diversity of form unless some mental influence stepped in. (Mental operation is seen, for example, in the second part of *shamefaced* as compared with *steadfast.*

The termination should be *-fast* in both instances, but popular etymology connected the former with *face*) But few, if any, languages can show such purity of descent and simplicity of operation. English, though based on the dialect of the East or South-East Midlands, has been compelled to reckon with the dialects of the South and North, particularly the latter, which again has been affected by Scandinavian tendencies Moreover, it has borrowed freely, especially from Latin, either directly or through the French. It therefore possesses many doublet-forms, although it may be remarked in passing that in all such cases an appreciable distinction or specialising has been developed between the use of the two words in each pair. Thus *wise, bench*, the native English forms, and *guise, bank*, the same words, but adopted from French in their French shape, are by no means identical in use. Similarly *gard(en)* and *yard* are doublets within the dialects of England itself. The same is the case with *draw* and *drag*, *scale* and *shell*, *hale* and *whole*, *shirt* and *skirt*, *clench* and *clinch* *No* is Anglo-Saxon, *nay* is Scandinavian. Again, *count* is the French *compter*, from Latin *computare*, while *compute* is the form taken directly at a later date from Latin by English.

French, again, possesses words inherited from Latin through the *lingua romana* and also words borrowed or adapted from Latin by the learned in more recent times. The same Latin word may therefore occur in two forms, the one influenced by phonetic law through all the history of French as a language, the other influenced only by such phonetic laws as have had full play since the time at which it was borrowed. Thus *fabricare* as inherited becomes *forger*, as borrowed or adapted it is *fabriquer*. Similarly *serment* and *sacrement* are an older and a younger form of *sacramentum*; *sembler* and *simuler* of *simulare*. Moreover, French, like English, had its dialects. The *ca-* of Latin became *cha-* in the French proper of the Ile de France, but remained *ca-* in Picard. If modern French possesses both *champ* and *camp* (though in distinct senses), the variety is due

to the taking up of a form from the Picard dialect. The Central French gives us *leal*, the Northern French *loyal* There are not, in fact, two forms in a single dialect. When *on* and *homme* are declared to be two representatives of the same word in the same dialect the remark is incorrect. *On* is the nominative (= *homo*), *homme* is the accusative (= *hominem*). The *h*, of course, is unheard, and its presence or absence is merely a matter of the writing, not of the sound

(3) Words different in origin may take the same shape in different languages

If we press these words and their intention strictly, this phenomenon is one which will trouble the etymologist but little. When the different words which have been 'weathered down' to the same form have altogether unconnected meanings, there is no danger of derivation being tempted from the scientific path. The German *viel*, 'many,' and the French *fil*, 'wire,' may be said to possess the same form as the English *feel*, since the pronunciation of all alike is *fil*. But there is no imaginable association of sense, and no one is likely to attempt to relate such words On the other hand, it is with the greatest rarity, if ever, that two words of different primitive form come to develop both absolutely identical shapes and also approximately the same meaning 'Call' and Greek καλ- (*kal*-), though the same in sense, are in pronunciation only approximate, not identical. The same is true of the Polynesian *mata*, 'eye,' and the modern Greek μάτι (*mati*). Accepting, however, such approximations as instances of agreement in the 'same' form, it is only to be wondered at that they are so few. Amid the possible permutations and combinations of sound which make up the various words of language, and amid all the hundreds of languages which exist, it would not be surprising if purely accidental coincidences were somewhat numerous. There is little similarity between an earlier Greek ὀμμάτιον (*ommátion*) and the Polynesian *mata*, and perhaps if we knew the fuller history of the Polynesian word the original resemblance would prove smaller still.

ὀμμάτιον (*ommátion*) itself is a late diminutive of ὄμμα (*ómma*), and, when the word is brought back to this form, the similarity practically vanishes. It would scarcely have been necessary to deal with this topic but for the fact that even one solitary case of such chance resemblance has sometimes been enough to evoke the most baseless speculations on the part of those whose imagination is stronger than their judgment

(4) Words of different origin take the same form in one and the same language

Thus in English *bay* is used of a tree, a colour, an inlet of the sea, and the deep bark of a dog. The origins are respectively the vulgar Latin *bacca*, *badius*, *baia*, *abbaubare*. In *bear* and *bare* we may disregard the spelling and recognise one form with three distinct senses and derivations   *Sound*, as 'strong,' is from Anglo-Saxon *sund*, as a noise it is the French *son* (Lat *sonus*), as an act of testing depths it is the French *sonder* (Lat *subundare*)   *Bound* is a participle of *bind*, or it is the Anglo-Saxon (*ge*)*būn*, 'ready.'   *Seal* is the Latin *sigillum* or the Teutonic *seol*, according as it denotes the instrument or the animal   *Dole*, if 'grief,' is the French *deuil*, if a 'portion,' it is Teutonic, related to *deal* and the German *Teil*.   In French *louer*, 'to let,' represents *locare*, as 'to praise' it represents *laudare*   It is vain to multiply examples, which are extremely numerous.   The lesson to be drawn from them is that in etymologies it is futile to attempt ingenious *tours de force* and to concoct for words like these some sort of association of ideas with a view to identity of derivation.   Had the various origins of *sound* been lost, it is quite conceivable, in the light of experience, that the empirical etymologist would have invented some device for connecting the sense of 'strong' with the sense of 'noise' or of 'testing depth.'

A first principle of sound etymology is to trace the actually discoverable history of the word and to indulge in no speculation until that material is exhausted.   Nothing

must be taken for granted   *Belfry* has nothing to do with *bell*, but is old French *berfray*.   In *cordwainer* the word *cord* plays no part, but *Cordova* does.   *Restive* and *restless* are not from the same main root

A second principle is to assume rigid regularity of phonetic laws unless good motive is ascertainable to counter-act or traverse them.

A third is to postulate lost intermediate steps with great caution and by a process of strictly scientific induction

The part played in etymologies by laws—if there can be said to be laws—of meaning-change belongs to semasiology. Here we are concerned simply with the phonetic side of derivation.

CHAPTER XVI

CHANGES OF MEANING

ALONG with the changes in the pronunciation of a language there proceed changes in its vocabulary. Many of its words gradually drop out of use and are replaced by others; many new words are either borrowed from foreign tongues or coined from the materials supplied by the language itself. Of these losses and additions something will be said in the next chapter. Meanwhile, in the case of those words which are retained in use, there is a constant tendency to widen, narrow, or shift their meanings. Even in the almost unimaginable event of two cognate languages retaining substantially the same sounds in such words as they keep, they would not only come to differ in the extent of their vocabularies, but also the same words might in the one language eventually possess senses unknown to the other, until, for that reason alone, their respective speakers would be perpetually at cross-purposes.[1]

'Laws' of meaning-change are not yet discovered and are probably undiscoverable. Interesting observations can be made of certain tendencies and phenomena, but beyond this we can hardly go. In the case of phonetic change the mind plays comparatively little part; in changes of meaning it is, of course, the one factor. We can perceive the physiological operations which will naturally transform one sound into another, we cannot hope to reduce to

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[1] Certain English words as used in America might exemplify this statement. *Bug* and *fix* are instances.

rules the complex psychological operations which transform one meaning into another.   We can say that some words widen their meaning, that some narrow it, and that some shift it, and we may often be able to trace the association of ideas which brought these occurrences to pass   But we cannot get to fundamental principles which determine that a certain class of words shall ʳnecessarily widen rather than narrow their meaning or *vice versa*.   There is no ascertainable principle which makes the English *man* retain its wider sense, while *wife*, which originally meant 'woman,' has become narrowed   If any such principle be imagined for the moment, it will be found to break down when applied to German, in which *Weib* (the same word as *wife*) means 'woman' and not 'wife,' while *Mann* often has the narrower sense (which has disappeared from standard English) of 'husband'   In provincial English, it is true, one may still hear a woman speak of her 'man,' and the older and wider sense of *wife* (as 'woman') persists in *fishwife, housewife*, but the following scheme represents the development of the meanings in standard English and German respectively —

Old English	Old German	Modern English	Modern German
man = *man* (wider) and *husband* (narrower)	*Mann* (senses as in O English)	*man* (wide sense only)	*Mann* (both senses of Old Germ retained)
wife = *woman* (wider) and *wife* (occasional narrowing)	*Weib* (as in O English)	*wife* (narrower sense only)	*Weib* (wide sense only)

It is doubtless sufficiently easy, after the event, to follow the process of narrowing in the case of *wife*   But why did not the same process occur with the German *Weib*?   The Latin *femina* ('woman,' but not 'wife') in its French form *femme* means both 'woman' and 'wife'; meanwhile the Latin *mulier* ('woman') in its Italian form *moglie* means

'wife' only   Why should there be this divergence of
history?   The English *deer* is the German *Tier* ('animal')
A sufficiently intelligible reason may be found, after the
event, why *deer* became restricted in England to the cervine
tribe of animals, but why did not *Tier* follow the same
course?   Or why did not *deer* retain as broad a sense as
the German?   This is a question which could only be
answered from the whole history of the association of
each people with the fauna of its surroundings, and from
mental processes which are often started by chance or
transient circumstance.

A primitive language, such as the Indo-European
in its hypothetical homogeneous state, possesses a certain
stock of words   Some of these are names of definite
single objects, such as 'sun,' 'moon,' 'sky,' or of definite
classes of material objects, *e.g.* 'tree,' 'ox,' 'star,' 'tooth.'
Others express relationships, *e.g.* 'father,' 'brother,' 'son.'
Some are pronouns, *e.g.* 'I,' 'we,' 'you'; some numerals,
'two,' 'three,' 'ten,' etc.   There are definite physical
actions, *e.g.* 'sit,' 'stand,' 'speak.'   Within this region of
names for simple and definite notions it might seem that
there is no room for change of meaning, that the speakers
of the primitive tongue itself could not fail to attach
to one of these words exactly the same sense, and that
the derived languages of a later date, if they retained the
words, could hardly be subject to any unconscious prompt-
ing to shift their meaning.   Yet a little consideration will
reveal the contrary.   In the first place, in all languages,
even the most uncultivated, the metaphorical or figurative
use of words is one of the most natural efforts towards
expression.   The word for 'tooth' may speedily lend
itself to the wider sense of any 'peg,' the word 'sit' to
any settling down.   In the second place, experience will
show that if the name of a class of objects includes more
than one species, the name of the class may easily become
more narrowly applied to the species which is most

prominent   Thus the word for 'ox' may come to be applied specially to the female, or cow.   This has actually occurred in the English *cow* and German *Kuh*, as compared with the wider sense of the cognate *bōs* in Latin and βοῦς (*bous*) in Greek, these words being used, like the common original **gōus*, of both sexes   The same narrowing has befallen the English *ewe*, which is the same word as the Latin *ovis* and a primitive **ouis*, used of any sheep.

Again, as the once homogeneous and homogeneously situated people is dispersed, the various branches, in their later homes and amid new natural surroundings and social conditions, may be led to make a somewhat different application even of the common words above described If, for example, a special kind of tree prevails in a particular region, it is conceivable that the word for 'tree' might come to be applied in that region, first particularly and then solely, to such kind.   At first the special sort of tree—the commonest tree, or *the* tree—would suggest itself to the mind when 'tree' was mentioned.   Thence 'tree' would gradually be accepted and employed commonly in that narrower sense.   This was apparently the case with the Greek use of δρῦς (*drūs*), 'oak,' a word originally identical with our *tree*   Sometimes the name properly applied to one object may be transferred to another closely resembling it. **Bhāgos* in primitive Indo-European meant *beech*, and that meaning is retained in English and in the Latin *fāgus*.   But in Southern Greece the beech is unknown, and the word φηγός (*phēgos*) is transferred to an oak with edible acorn.

If, turning from natural environment, we look to social conditions and their effects, we find meaning-change occurring in cases where it might have been least expected.   Our word *brother*, like the Latin *frāter*, unless used figuratively, implies actual community of parentage on one side at least. But in Greek φράτηρ (*phrātēr*) is a 'clan-brother,' and possesses only a special politico-religious application.   To the present discussion it would not matter which sense was the more primitive , there has been change in one language

or the other. In point of fact it is tolerably certain that it is Greek which has deflected the meaning. Something similar has occurred in the history of the Romance tongues. The Latin *frāter* is, like *brother*, a term of definite blood-relationship. That sense is retained in the French *frère*. But in Spanish *frate* has come to signify a religious brother or friar, while the blood-brother is known as *hermano* (from the Latin *germānus*) Even pronouns are not secured against sense-shifting. The plural *you* is now used as singular in English and French ; in German the plural third person *Sie* ('they') is used as the polite singular second person ('you'), in Italian the third feminine *ella* ('she') is the formal pronoun for the second masculine ('you') A satisfactory account can doubtless be given of the mental processes which have caused a substitution of these plural and indirect modes of address for the singular and direct. Nevertheless the substitution could not have been foreseen as the necessary outcome of a clear principle, nor can any fundamental explanation be given of the reasons why French, German, and Italian have not agreed in the forms of substitution at which they have severally arrived

If changes like these occur in words of so common and definite a type, it is easy to understand how wide and complex may be the shiftings in words more abstract. Except in naming the commonest material objects or operations, no two individuals use their words in precisely the same sense. Names of abstract notions, terms of ethical description and the like, are employed with different values, depending on the conceptions of the speaker If a speaker describes a thing as 'good' it is very seldom that a hearer can realise precisely how much or how little the word is meant to convey. The notion of what is 'good' or otherwise differs in different minds, according to their moral or æsthetic constitution The term is of course accepted on all hands as one of commendation ; in a particular connec-

tion the particular point of commendation may be fairly
appreciable , a thing is 'good' to the moral sense, or it is
good for its purpose, or it is pleasing to the palate. Yet
the moral sense of A is ʻnot in all respects the moral sense
of B, nor are their palates identical. A word is a coin or
token of language , a speaker may intend his token to
represent sixpence, while to the listener, its current value
may either be only fourpence or it may be ninepence   As
compared with the speaker's use of the word, his own may
mean less or more , it may leave out one element in the
conception while perhaps adding another which was not
in the speaker's mind   There is, of course, a sort of
averaging in the meaning as accepted by the whole
community, but, as with articulation, there are in reality
as many subtly graduated meanings as there are speakers
of the language.   At the present day to say merely that
a man is a 'gentleman,' or a woman a 'lady,' is to convey
little specific information   What does the speaker, as
opposed to the hearer, mean by a 'gentleman' or a 'lady'?
What pictures have their respective education, environment,
ethical tone, sympathies and tastes built up in their minds?
The terms are commendatory, but it would be difficult to
define the particulars which the whole speech-community
agrees in attaching to them

Such width or vagueness of application must inevitably
exist already in many words of a primitive tongue.   In the
effort to express abstract or general notions a greater strain
is put upon the simple resources of such a language than
is necessitated at a higher stage of development, when the
vocabulary has been immensely enlarged and when words
have been in a large measure specialised to correspond to
more specific concepts.   It is true that the distinctions
of thought have meanwhile been increased by distinctions
of language, and that, in the attempt to cope with thought,
language is always struggling in the rear.   Nevertheless it
is to be assumed that the degree in which speech falls short
of thought was much greater in a primitive language than

it is at present   Abstract notions were habitually expressed
by figurative terms drawn from the physical world, and such
terms are after all only partially applicable   Some, it is
true, are more conspicuously apt than others   The English
right, etymologically identical with Latin *rectus*, properly
means 'drawn out,' 'stretched taut,' and so 'straight'
Wrong is that which is 'wrung' or 'twisted,' 'crooked,' and
the same is the sense of the Latin *prāvus* (whence *de-praved*)
Moral or intellectual rightness has thus been expressed
imaginatively by words drawn from the concrete and visible.
In this instance the aptness is of the first order   Yet it
must be evident that under one primitive word **rektós*
there would be included a large group of associated notions,
physical, moral, and intellectual, not all of which would be
in the mind of the speaker every time the word was used
There was room for various wider and narrower acceptations
That this must be the case is plainly indicated by the
history of **rektós* in English   *Right* has practically lost
the physical sense of 'straight' altogether, and is now
applied only in the moral or intellectual sphere   *Wrong*
has undergone the same narrowing   And, even so, the
meaning intended by 'right' and 'wrong,' as by 'gentleman,'
will still depend on the mental constitution of the speaker

We must allow therefore for the existence, in both the
present and also a very early stage of every language, of
numerous words of vague or complex signification, in the
use of which there must be much diversity.   Wherever
there can be diversity, it is impossible to tell what 'average'
meaning will eventually prevail as the language develops.

But apart from the words whose meanings never can
possess a distinct outline, we may observe several tendencies
which lead to the narrowing, widening, or shifting of meaning,
even in cases where the application of a word is originally
clear enough.   Widening, it is true, is comparatively rare.
Since the aim of language is to express thought more and
more adequately, it follows that language tends rather to a
more precise than to a less precise application of a word.

Many examples of so-called widening are in reality rather cases of transference. The Latin *villa* is a country-seat of a certain type, commonly consisting of a mansion with farm-buildings. If in French *ville* is a town, and in Italian *villa* is a special kind of residence, these uses can hardly be called widenings of meaning. The sense is different from that of the original, but it is no less specific in its new domain Nevertheless widenings, though less frequent, are occasionally found, as, for instance, in the case of *miscreant*, originally a 'misbelieving' heathen or heretic, and then a discreditable character in general. The Latin *domina* means 'mistress.' Being used as a title of courtesy, first for any lady and then for any woman, it has come, in the shape of the Italian *donna*, to mean simply 'woman,' and to serve as the current word in that general sense. *Unkind* once signified specifically 'unnatural' to relatives , its present sense is both wider and weaker. *Place* (Latin *platea*, from Greek πλατεῖα, *i e.* 'broad ') was first a broad street, then a comparatively open place in a city, such as a 'square.' Its present indefinite English use is a remarkable instance of broadening and attenuation.

We may now examine somewhat more closely the manner in which meaning-change takes place, confining ourselves generally to examples from the English language, as likely to be more readily appreciated   We shall find that such changes are reducible to—

       1 Specialising or narrowing ;
       2 Generalising or widening ,
       3. Shifting or transference ,

and that the chief motives of change may be classed as—

    1. Indefinite width of meaning in a word as originally applied, causing diversity of use

    2 Predominance of one element in a thing named, causing a more special application of the name to that element.

    3 Unconscious inclusion of a secondary meaning, due to a natural association of ideas, and thence either

a gradual transference to that secondary meaning, or else a widening to comprise it

4. Effort at force or clearness of expression, or at liveliness, causing a figurative application of words and hence a broadening of these words.

5 Emotional emphasis, leading to a misuse of a term in a wider or weaker sense than the true one

6 Euphemism and irony, or a desire to avoid the unpleasant or less courteous term, and thence a new sense acquired by the euphemistic substitute

7. Other laxity in the use of words, through ignorance or misapprehension.

Of the changes caused by diverse treatments of words (mostly abstract) in which the outline of meaning was necessarily vague, we have already spoken in the case of *good*, *right*. For the rest it is most profitable to proceed by the examination of examples

When a thing is named or thought of, a picture of that thing is called up before the mind   In such a picture certain elements or features will be more distinct than others, certain characteristics will be foremost in suggesting themselves. Which elements, features, or characteristics these will be, will depend on the experience which the speaker or listener has had of the thing in question and on the point of view from which he commonly regards it.   The most obvious instances are those in which the name belonging to a class of objects becomes restricted to one species of them.   If, for example, *deer* means a ' wild animal,' the picture which is called up will depend partly on the sort of wild animals to which the speakers are accustomed and the point of view from which they mostly concern him, and partly on the connection in which the wild animal is immediately spoken of.   In England, when wild animals of any size had become rare, and when they were mainly considered as edible game, it was not unnatural that the expression to ' go hunting deer ' summoned up at once a picture of that wild animal which was *par excellence* the object of the chase.   At first a narrower use of

deer for this particular animal would be a laxity, but it would be a frequent and contagious laxity, and, inasmuch as no misapprehension ensued, it gradually passed into the current sense. Again, in a country in which tame cattle, as kept on farms, are mostly of the female sex, a term which once applied to both sexes may in process of time come to be accepted as denoting the commoner sex only Thus the Indo-European **gōus* ('ox'), **sūs* ('pig'), **ouis* ('sheep') are represented in English respectively by *cow, sow, ewe*, words which apply only to the female Yet neither Greek (βοῦς, ῦς, οἶς) nor Latin (*bōs, sūs, ovis*) has made this limitation. The psychological process in the case of the English is sufficiently clear. At the mention of *sow* or *ewe* there was conjured up, at first unconsciously, the assumption of the female animal rather than the male This occurred so generally that (although again the step is unconsciously taken) it was not found necessary to add any further term denoting the sex. *Maid* and *girl* were originally of common gender. The limitation to the female would doubtless first occur through the greater frequency with which the allusion, in conversation, was to children of that sex. In the case of *wife* (= 'woman') the process is more easy to follow. There was in each house a ' man ' and a ' wife ' (*i.e.* ' woman '); the husband would habitually speak of ' my wife ' (*i e.* ' my woman '), and whenever in Old English the common phrases ' my wife,' ' the wife,' ' man and wife ' were heard, ' wife ' would naturally be taken to mean, not simply ' woman,' but also wedded woman, mate, or spouse. That aspect of the woman would come to be most prominent, until eventually it would be necessary to add some qualification to the word ' wife ' when it was *not* to be accepted in this more special sense. Hence a compound, ' woman ' (i.e. *wif-man*), won its way for that purpose.

The meaning of the late Latin *capitale* is ' principal ' or ' sum of movable property ' From the Norman French the word came into English as *catel*, and from the Parisian French of the law courts as *chatel.* The notion called up by

the mention of *catel* (*cattle*) was chiefly that of property in animals. (We may compare the frequent modern narrowing of 'stock' to live stock.) Since its general acceptance in this sense, there has happened in more recent times a further tendency to limit the notion to oxen, as forming the more conspicuous or valuable portion of such *catel*. At a date later than the popularising of *catel* in this meaning of animal property, the form *chatel* (as in 'goods and chattels') also emerged from the phraseology of the law into the phraseology of ordinary life, and in this shape the word has been narrowed in the contrary direction, to signify inanimate but indefinite movable articles.

It should be remarked, however, that the narrowing of such original senses will hardly proceed far unless there either exists already some word capable of representing the older and wider meaning, or unless some new word comes into existence for the purpose. At the least it will be necessary that some word should either exist or come into existence to express that part of the wider meaning which has been abandoned by the narrowed word. Thus if a word originally including the area of meaning $a + b$ becomes restricted to a, there must either be or become some other word for $a + b$, or at least some word to represent b. The narrowing of *cow* (**gōus*) is made possible by the existence of the wider term *ox*, as well as by the use of *bull* and *bullock*; the narrowing of *ewe* (**ouis*), by the existence of *sheep*, as well as by the use of *ram* and *wether*, the narrowing of *sow* (**sūs*), by the existence of *pig* and the use of *boar*. The limiting of *corpse* to a dead body could scarcely have occurred if *body* or its equivalent had not been ready to fill the area from which *corpse* was to shrink.

Of many other English words which have specialised their meanings under influences of the kind in question a few may be mentioned, *e.g.*

	Earlier Sense	Narrowed Sense
yard	stick *or* pole	stick of a certain length : pole in a ship's rigging
voyage	journey	journey by sea

	Earlier Sense	*Narrowed Sense*
meat	food	the *pièce de résistance* in food (flesh meat)
acre	field	field of a certain area
starve	die	die of hunger (provincially, of cold)
parson	legally representative 'person'	'person' of a church
purchase	procure	procure by money
fame	good *or* bad report	good report
censure	judgment	unfavourable judgment
thatch	covering (roof)	(usual) roof of straw
punctual	careful in any point	careful in point of time
fowl	bird	domestic bird (gallinaceous)
undertaker	(of any business)	(of funerals)
ghost	spirit	spirit of dead
hound	dog	dog of chase
disease	discomfort	discomfort in health
tide	time	time of ebb and flow of sea
raisin	grape	dried grape

The same phenomenon occurs in all languages. In Latin we have, *e g*

actor	performer	> pleader
auctor	one who pledges his word	> author of book
studium	pursuit	> pursuit of literature, study
princeps	a first man	> emperor

In the later Greek ἄλογον (*alogon*), properly 'unreasoning' and thence 'brute,' became the current term for the horse, just as *beast* in agricultural language commonly means a bullock.

The process is in tentative operation at all times, and, precisely like phonetic change, it may win a partial (or dialectal) success in a certain region or among a certain class, or it may conquer the whole speech-community, or it may be counteracted and suppressed. Anyone who contemplates the narrower use of such expressions as *the paper* or *a paper* (*i e.* newspaper), *the gas* or *gas* (*i e.* coal-gas), *engine* (*i e* steam-engine), *liquor* (*i.e.* alcoholic liquor), *rail* (*i e.* railway), *wire* (*i.e.* telegraph wire), will perceive that they originate indeed in connections or circumstances which explain them,

or are first so used among those who are specially concerned with them, but he will also perceive that the numbers who readily apprehend the narrower sense without explanation are very large, and that at least in the case of *gas, engine*, and *liquor* that sense has practically come to be accepted by the whole community In what particular way a wider sense may become specialised depends again on conditions too complex to follow. The Latin *firmare* is 'to make firm' (or 'fast') In French *fermer* is only to 'shut' fast (*e.g.* a door), in Italian *fermare* is only to 'make to stand' fast (*i e.* to 'stop')

Closely cognate to this cause of change—because due, like it, to the mental picture which a word evokes—is another in the list above given This is the addition (originally unconscious) of a secondary notion to the proper notion of the word, prompted by an irresistible association of ideas This secondary notion may be so regularly connoted and understood by speaker and hearer that it becomes as prominent as the primary , gradually it may grow to be regarded as itself the primary notion, and eventually as the only one That is to say, a word of which the proper notion is x may call up—as a result of some common experience in connection with the thing named —the notion y. Insidiously the sense comes to be $x+y$, and finally y alone. This has been the history of *villain, knave, churl, boor, idiot, wit, gossip*, and a large number more Attached to the Roman *villa* ('country mansion with farm') there were *villani*, labouring slaves In its older French shape *villain* the word denotes a feudal serf. These uncultivated rustics lacked the polish of the gentleman, and were supposed also to lack his sense of honour. Hence with the mention of *villain* (in the proper sense x) there was evoked the notion of a 'low fellow' (sense y), and gradually that sense became predominant. The change would naturally be assisted by a deliberate metaphorical application of the term to persons who were not serfs. For example, one might frequently say of a man who nominally belonged to the gentry 'He is a

villain,' in the figurative sense that ' he is (as low as) a serf.'
The transference would be completed at once when feudal
villenage no longer existed and when the strict sense was
therefore obsolete

In the earlier Anglo-Saxon a *churl* is a ' man,' then a
' common man ' without social standing, especially a rustic,
then a serf, then a mean and surly person. How difficult it
is to prognosticate the exact mental process of such change
is shown by the difference between the new sense of *villain*
and that of *churl*. The notion in *villain* is of wickedness, in
churl it is of surly meanness It is possible that the un-
amiable characteristics of the Romance *villanus* and the
Saxon *ceorla* actually differed most saliently in these ways
Meanwhile a *boor* was a peasant farmer, then any peasant,
then anyone marked by the rude manners of the peasant
Here again the modern sense, though akin to that of *churl*,
is not identical with it The *churl* is mean and surly, the
boor is rude and rough

A *knave* was simply a boy (German *Knabe*). But
' knave ' (i e ' boy ') was a common term for household servant
(as in the Greek παῖς, the Latin *puer*, and the French *garçon*,
' waiter '). A chief characteristic of the household ' boy,'
whether in Greece, Rome, France, or England, was supposed
to be dishonest cunning and trickery. Hence the special
modern sense attaching to *knave.* Nothing could be more
instructive than these four examples in revealing, first, the
manner in which the associated idea usurps the place of the
primary, second, the variety of such associated ideas which
may be presented

An *idiot* was originally one who led a private or lay, as
opposed to a public or professional, existence. Such a
person was non-expert ; he was commonly ignorant. From
conspicuous ignorance to mental incapacity is an easy step
in the transference of meaning. *Wit* is properly knowledge
and enlightenment. In the early eighteenth century it is
culture and intellectual brightness. The manifestation of
this gift in bright and vivacious conversation has gradually

led to the specialised sense of the present day. A *gossip* (*god-sib*) was a 'relation in God,' a co-sponsor at the baptism of a child. Such godfathers and godmothers were naturally intimates and cronies. The godmothers in particular were 'gossips' to each other, and their conversation was of a more familiar and personal kind than is even usual with elderly females Hence—though doubtless figuratively in the first instance—the later application of the word. It is interesting to note that the French *commère* has gone through a similar history A *commère* is a '*femme bavarde*,' and *commérage* is '*propos de femmes bavardes*.'

In all the above circumstances, when referring to persons, the change has been in the direction of disparagement. The same is the case with the epithets *artful*, *crafty*, *simple*, *silly*, *daft*, *cunning*, and others. But it is an error to assume that the depreciation in the meaning of these words was necessarily due to any contempt or dislike of art, craft, simplicity, blessedness, innocence, or knowingness. Nor is it well to philosophise to the effect that art, craft, and knowingness are commonly turned to injurious uses. On the other hand, it is tolerably certain that many of these terms were frequently applied euphemistically or ironically. These figures of speech, and also litotes (or under-statement), play no little part in the development of meanings, and to call a mentally feeble person *silly* (i e *selig*, 'blessed'), or *simple* (i.e. 'open'), or *innocent*, was an exhibition of considerate courtesy in some mouths, of irony in others. Similarly, to style a schemer 'knowing' (*cunning*) or full of deftness (*artful*) may be called litotes, euphemism, or irony, according to circumstances.

The generalisation of the courtesy titles *Mr.* (i.e. *Master*), of Italian *donna*, 'woman' (= *domina*, 'mistress'), and the frequency in vulgar speech of *lady* and *gentleman* for 'woman' and 'man' are due to the same euphemistic principle. Another occasion of its employment is in speaking of things which are in themselves unpleasant. Certain plain words bring the disagreeable thing more crudely and coarsely

before the mind , another word throws a kind of veil over it
In the effort to express otherwise unnameable things a wider
term is commonly applied. This gradually contracts to the
special meaning alone, and then must itself give place to
something less distinct or uncompromising

The effort towards force and vivacity leads to two
departures from the normal use of words   There is first the
emphasis which substitutes a stronger word for the weaker
but truer one, as when *extremely, horribly, atrociously, delight-*
ful, immense, and the like are used in place of 'very,' 'dis-
agreeably,' ' much,' ' pleasing,' ' large '   A frequent use of such
intensifying or exaggerating terms leads to a discounting
of their meaning   They become weak and colourless.   It is
this habit—not to enter into any question of the habitual
dilatoriness of mankind—which has corrupted the meanings
of *presently* and *by and by*, so that they now no longer
express the sense of ' now, without delay,' but the exact
contrary, ' not now, but in a little while '   *Immediately* has
gone far upon the same path   Often emphasis is humorous
and deliberate , at other times it is the effect of strong
emotion , at others the result of a constitutional fondness
for fine language
Far more important in this kind is the figurative or
metaphorical application of a term.   It has already been
mentioned that, in order to express abstract notions or
mental operations, a primitive language must draw upon
names of things and operations which are physical   The
' poetic ' faculty in mankind—which, as Aristotle puts it, per-
ceives the resemblances between things—expresses the unseen
in terms of the seen, the intangible in terms of the tangible,
the processes of thought in terms of the action of the senses.
To guess or judge correctly is to *hit* ; that which is un-
sympathetic and emotionless is *cold* ; a face which suggests
the geniality of the sunshine *beams* , a poem bears the *stamp*
of genius , a statesman *steers* a country's course , a vague
notion is *hazy*.   A primitive language acts thus, perhaps in

crude forms, of necessity ; but such enterprise of expression
is in progress at all times   It is a particular function of the
poet to present ideas vividly in this apprehensible form of
the concrete ; the man of original mind, when his vocabulary
is deficient, constantly falls back on metaphor, and in this
sense a backwoodsman is often endowed with the poetic
faculty ; he re-creates metaphor in its original simple and
homecoming terms, unconscious that the language already
possesses the same figure of speech in a faded form   The
humorist and the ingenious inventor of slang add their quota
of metaphor to the possible meanings of words.   Every such
new application must at first widen the sense-contents of
a word, and this wider scope may be long maintained , at
other times it happens that a special metaphorical use
increasingly prevails, until it drives other meanings, including
the primary sense, out of the field   The speakers of vulgar
Latin, whether humorously or not, applied the word *testa*
(' pot ' or ' potsherd ') to the skull   This was also loosely used
for the head in general   In modern Italian *testa* and French
tête the sense of ' head ' is the only one current.   A woman
of vicious temper is called a *vixen.*   The word was originally
applied metaphorically, from the notion of her resemblance
to a she-fox (A S *fyxen*)   It is true that *vixen* may still
mean literally a she-fox, but to many speakers of English
that meaning is quite unknown, and in the mouths of the
majority the metaphorical sense of *vixen* is the only one

Since metaphor, alive or fossilised, is so obvious in
almost every sentence of language, there is no need to dwell
further upon examples   What chiefly concerns us here is
the fact that there is no uniform and necessary course of
development in figurative language, that the words which it
will affect and the extent to which it will go cannot be
calculated, and that, while all languages employ words
metaphorically, they by no means always turn the same
terms to the same metaphorical use, and that consequently
two related languages may find the senses of their cognate
words differing widely through this cause alone. We may

harp upon a thing in English, but though German has the cognate word *Harfe* for 'harp,' we must not look for German to have applied that particular word in any phrase expressive of the same notion. *Head* and *Haupt* were once the same in both form and meaning; not only has the articulation changed in both English and German, but the metaphorical senses which we have come to attach to *head* are only partially represented by the metaphorical meanings which have been developed by German. If x stands for the original meaning 'head,' the present English use may be represented by $x+y$ and the German by $x+z$, and in these formulæ the elements in y are only partially those in z. The modifying process of metaphor goes on for ever in the meaning of words, and success or failure of innovation depends on the same conditions as those affecting phonetic change, with the difference that here the mind plays a part much greater and more complex.

A last cause of meaning-change is to be found in mere laxity or sheer ignorance. A word is misused by a speaker who has never properly understood it, but who, on hearing it from others, has in larger or smaller measure misconceived the sense. Such misconception is not likely to be diminished when a superficial education is general, and when the vocabulary of the language, particularly in polysyllables, is vast. In the first instance, there is generally an easily appreciable affinity between the correct sense and the sense as wrongly conceived, but the latter is certain to be somewhat vague and the confusion which results may eventually lead to a very wide departure. The true meaning of *preposterous* was equivalent to that of the phrase 'putting the cart before the horse.' That it should have been accepted in a wider sense of 'absurd' was very natural with those who were unaware of its etymology and had never been warned of the particularity of its meaning. In its legal sense *premises* signifies the 'matters previously stated' or described in a document. The layman took the term

to be simply equivalent to 'the property.' Thence the modern use, which has become even more restricted *Secure,* from the Latin *sēcūrus,* is still used in Shakespeare in the sense of 'free from care,' 'untroubled.' That the meaning was intended by careful speakers to be distinct from 'safe' is best shown in the line—

> Men may securely sin, but safely never.

Yet the context so often implied, or seemed to imply, actual safety, that the word was commonly understood in that sense by those who were ignorant of its history. At the present day it is only too common an experience that many who use the words *infer, transpire, problematical* are altogether mistaken as to their proper values They use *infer* for 'imply,' *transpire* for 'happen,' and *problematical* for 'doubtful' They treat *equivocation* as simply a longer word for 'lie.'

In many cases it is scarcely possible to separate the misunderstanding of pure ignorance from laxity through association of ideas. The widening of *miscreant* may very probably have been as much due to the misuse of ignorance as to the reason already given. Without a live consciousness of etymology a word like *caitiff* (originally identical in form and meaning with *captive*) might easily be misunderstood, from the tone of the speaker, as simply equivalent to a miserable wretch. So *puny* (= *puis-né*, 'later born') must have been much misused before it could be so far shifted as to bear its present meaning. *Complexion* is properly the composition or constitution affecting the whole body, as determined by the proportions of the 'humours' which played so great a part in mediæval medicine To some extent a man's *complexion* could be gauged by the colouring of his face. Yet it is natural to suppose that the first persons to call that colour itself the complexion must have been those whose notions of the true meaning of the term were hazy. If we consider the change in the sense of *officious,* which has passed from 'scrupulous in the performance of duties' to 'meddlesome,' we must remain in some

doubt whether the early deviations were not due as much to a wrong notion of the intended meaning as to a less complimentary suggestion, which often arose in the mind when picturing the conduct of persons 'scrupulous in the performance of duties' In point of fact, the misunder-standing and the association of the secondary idea operate together. It is not customary in conversation for the hearer, if perchance he is not certain of the precise sense of a word, to ask the speaker for an explanation or definition of it He usually interprets it as best he can, and, after some familiarity with it, uses it himself without taking the trouble to correct his lax notion. If now we suppose that A, in speaking to B, styled C an 'officious' person in the older and favourable sense, and if B had not himself been accustomed to hear and use the term, one of two things might happen If B were actually acquainted with the manner of the 'officious' person and had noted that such zeal generally went with meddlesomeness, that unpleasant connotation would link itself to the word in his comprehen-sion, and would be contained when he himself repeated it. Or if A spoke with a tinge of sarcasm, or in such a tone that, while employing the complimentary term, he implied a dislike, B would naturally imagine the word to be dis-paraging In either case we have ignorance combining with a disagreeable association to produce a shifting of the meaning

In general it may be said of the causes of meaning-change, as above illustrated, that they seldom act singly. A *congregation* is strictly a gathering together into a flock or throng All animate things may congregate, and for all manner of purposes. Though the wider sense of *congregation* cannot be called dead, the usual, and with many persons the only, meaning is that of a gathering for religious service or to hear preaching. Doubtless the chief cause of this narrowing is to be found in the principle dealt with in the case of 'deer,' 'cattle,' and other specialisations The form

of gathering or congregation which, as being the commonest
or most important, was first called up in the mind by the
mention of the word was the religious or church gathering.
This would be so prevailingly the case that a powerful
movement would be given to the specialisation. But there is
also a time in each speaker's life at which he makes his first
conscious meeting with a word and especially a long word
He is ignorant of its exact meaning, but gathers it as best
he may from the context   It would be almost inevitable
that a child should first habitually hear the word *congrega-
tion* in its narrower reference, and to that narrow sphere he
would naturally thenceforward attach it   We thus find not
merely specialisation, but ignorance assisting specialisation
in determining the fate of a meaning   The same history
belongs to *censure*, *retaliate*, *resent*, and other words, which
were originally neutral in meaning, but which have become
restricted to the unfavourable side.

It cannot be too carefully borne in mind that there are
always these two parties to speech—the speaker more or less
familiar with the word, and the listener who is first meeting
with and acquiring it.   Into whatever laxity an individual
speaker falls, change might be more easily corrected if it
were not for the circle of younger and imitative speakers
who come more or less under his influence.   As in the
corruption of sound, so in the corruption of meaning, each
individual radiates a certain force, which may be very small
or very great, but which is necessarily greatest upon those
who are brought very young within its sphere.   A sarcastic
or ironical use of a word, a specialised use, a lax use, a
mistaken use, or a figurative use will in such instances
spread in some degree from the individual to his environ-
ment.   And, as with change in articulation, change in
meaning acquires a conquering force when it is one which
occurs in many quarters at once and is backed by natural
psychological reasons.

It remains to point out that the meaning of certain

classes of words may vary from epoch to epoch, or in different regions of the same language, through a diversity in social circumstances, or in material practices and appliances. A *volume* is properly a roll, and the term was applied to a book, or portion of a book, forming such a roll The modern use is, of course, simply due to the substitution of a new shaping or construction of books. *Book* itself originally meant a wooden tablet or slip, probably of beech, but the name changed its meaning with the change of material The same is true of *paper*, once the sheet of papyrus pith. The Roman *senatus* was a gathering of the ' old men ' (*senes*), but in process of time it referred only to a certain order in the body politic, without any consideration whatever of the age of its members In early Athens the βασιλεύς (*basileus*), or king, was also the head of the State religion and the chief officiator in its services After the abolition of kingship the name was retained for the annually elected officer who performed these religious functions. The political sense of the word *minister* (properly ' servant ') is another instance in point Until the introduction of steam a ship *sailed* in the proper sense, but in modern parlance a vessel *sails* although it is propelled only by its screw A *town* was a homestead surrounded by an enclosure (compare the German *Zaun*, ' hedge ' or ' fence '). As the Anglo-Saxon settlements, which were of this nature, grew into villages and then into towns, the name went with the change Provincially, in the North, a ' town ' or ' township ' is still often but a farm The development in this word is peculiarly like that from *villa* to the French *ville*

How meanings may shift, either widely or slightly, and how indeterminable antecedently the shiftings are, may be most clearly seen from a comparison of ' doublets,' or words of the same etymology, which are to be met with in most modern tongues, but which are especially common in English When two forms of the same word exist in a language, they either represent—as we have said already—

different dialects, or one is borrowed from a cognate language (such as by English from Dutch or German), or both are borrowed, but through different channels at different dates. It will be found that such doublets differ materially in sense There would indeed otherwise be no room for both. The reason of their existence side by side is that they do so differ, and therefore fulfil different parts in the economy of speech Examples are *story* and *history* (an earlier and a later form borrowed from Greek through Latin), *drag* and *draw* (from different dialects), *lawn* and *land* (Celtic through Old French and also direct), *thrill* and *drill*, *thatch* and *deck*, *ship* and *skiff*, *shirt* and *skirt*, *scale* and *shell* In these cases there has been no deliberate differentiation The language has not consciously distinguished the two meanings because it possessed two forms On the contrary, the side-by-side existence of the two is due to the fact that they were already differentiated Each dialect had given to its word a particular shade of application and thence each supplemented the other.

If now we suppose that a number of languages, such as the Indo-European tongues, were at one time practically identical, and if we confine ourselves to their gradual divergence in respect of the meaning of the terms once common to both, leaving other changes (*e g* of phonetics, syntax, and novel creations) out of account, we may represent the main possibilities by the following scheme ——

Let a be the common word and the original sense,
    a^1 a specialised sense of that word,
    a'' a euphemistic or ironical application,
    a^3 a metaphorical application,
    a^4 an exaggerated emotional use,
    b an associated notion,
    c a sense misconceived through ignorance.

Then perhaps, when they do not actually retain the simple sense a,

Language A develops a into a^2 or a^4.

　　　　　,,　　　B　　　,,　　　　,,　　　b (through the step $a + b$)

　　　　　,,　　　C　　　,,　　　c　　　,,　　　a^3 (through $a + a^3$).

　　　　　,,　　　D ⎱ agree in developing a into a^1, but the special-

　　　　　,,　　　E ⎰ isation may be different in the two cases

　　　　　,,　　　F develops a into c.

Or, since a word may possess several applications simultane-
ously, we may have something like the following —

$$
\begin{array}{ccccccc}
 & & a & & & & \\
 & & | & & & & \\
A & B & C & D & E & F & \\
\end{array}
$$

a and a^1　a^3　$a+b$　　$a+b$　b　　a　a^3　　c　a^4　　b　　etc.

　　　　　(generally a^3)　(with b most　　　　(with c most　　(only)
　　　　　　　　　　　　　common)　　　　　　common)
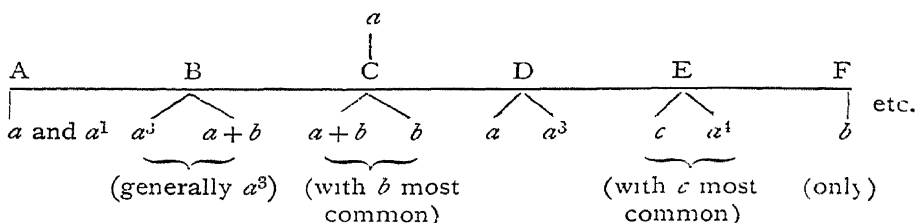
It is easy to perceive that, after such varied development,
the speeches in question, though using etymologically the
same words, may be as foreign or unintelligible to each
other as if their words had been without any such original
connection

CHAPTER XVII

THE DEVELOPMENT OF LANGUAGE

1 *The evolutionary principle in language; easing and economy, loss of flexion* —It is natural to assume that human language, like other characteristic human functions and attributes, has undergone a long and gradual process of evolution   It is also natural to assume that it will continue the process indefinitely   If there is a continuous adaptation of man as an organism to his environment, and a progressive emergence of the type and qualities which are best fitted to the conditions of human existence, so there is a continuous adaptation of language to the needs of expression   New developments arise, for the most part unconsciously, and also for the most part called forth by some actual defect in the instrument. Sometimes a speech positively lacks an adequate means of presenting a conception of the mind. Sometimes, though the means is forthcoming, it is too recondite for either ready use or ready apprehension.   There is not only a perpetual struggle of language to keep pace, by means of its vocabulary and its phrases, with thought in all its subtleties and discriminations.   There is an equally perpetual tendency to economy of effort, both on the part of the speaker and on that of the hearer.   The evolution of language means the development not only of the necessary material but also of the most facile devices for its use.   These include phonetic easing and also structural easing.   In other words, such tendency to increased facility affects both the phonology and the morphology of speech. Of phonetic

easing and its phenomena enough has been said already
The motives for morphological variation are the same , they
are unconscious motives, which do not deserve to be called
indolent, but which invariably tend towards a recognisable
sparing of effort.   To present thought not merely with as
complete as possible an approach to "the truth, the whole
truth, and nothing but the truth," but to present it in such
a manner as will make the least demand upon either the
time or the mental labour of the speaker or listener—this is
the ideal spontaneously pursued by language

Except with men of letters (whose influence, however,
may be of considerable potency) there is no deliberate or
organised cultivation of these virtues.   So far as they
advance, they are the outcome of the struggles of multitudes
of individuals against the limitations of their own linguistic
resources.   New 'pointers' to the precise meaning, in the
shape of novel devices of phrase, novel formations of vocables,
novel arrangements or positions of words in a sentence,
are begotten spontaneously when the speaker is fighting
against his own unreadiness, or against possible ambiguity or
vagueness, or against a false or insufficient understanding.
"Struggle is the begetter of all things," according to
Heracleitus, and of nothing is the dictum more true than of
language.   Among the new phenomena which are thus at
all times tentatively offering themselves, some are without
further life.   They belong to an individual here and there,
or to special occasions , they do not indicate a widespread
need, or, if they indicate it, they fail for some reason to
satisfy it.   At other times they are such as many speakers
are driven to hit upon, and many more, from the same sense
of a want gratified and a convenience gained, are prompt to
borrow.   In such cases there follows a "survival of the
fittest."

Meanwhile, along with such new development, there
proceeds, as naturally as among organisms, a decline and
gradual disappearance of the unfit.   In the case of language
the unfit is the inadequate and unserviceable, or the

cumbrous and superfluous.   If speech, struggling to remedy
the lack of precision in a phrase or to facilitate its compre-
hension, is led to invent something new, it is obvious that—
if the evolutionary principle is true—in proportion as the
new device prevails, the less distinct or more awkward will
drop into neglect, desuetude, and gradually into complete
oblivion   The process may be slow, but it will be certain,
unless there arise some powerful artificial check, such as that
of a universal, or at least a very wide, scholastic education
in the language   Such a check may operate for an in-
definite period , but should any social cataclysm occur
within the particular speech-area to interrupt the educational
tradition (as for instance through the invasion and domina-
tion of a barbarian or quite alien people), the elimination of
the useless and ' ornamental ' elements would speedily be
renewed   It is, for example, nothing but such an educational
tradition which keeps alive the use of the objective *whom* in
English.   The vulgar speaker says *Who did you see ?*, and
even to the educated it is something of an effort to begin a
sentence with the objective form in this instance.   In such
a setting it serves no adequate purpose, while it puts upon
the speaker the strain of foreseeing or providing the exact
shape of the sentence into which it is to come.   It is pre-
cisely against this and the like strain that language regularly
contends in its evolution, and it is obvious that the removal
of the mere educational precept would mean the total dis-
appearance of *whom* as the first word in the sentence   At
the same time it is easily felt that, in combination with a
preposition, *e.g* in *to whom*, *by whom*, no effort of foresight
is required, and such phrases might retain the objective sign
for many generations.   Even educational direction is some-
times compelled to yield to the evolutionary force in this
respect, and to abandon a rigid demand for the retention of
that which experience has proved to be nugatory.   In
France, where bureaucratic regulation of the language is
practised with at least as much stringency as in any other
country, the Department of Public Instruction has recently

declared—among other concessions—that no penalty attaches
to the use of the masculine past participle in such sentence
as *la ville que j'ai vu* in place of *vue*

Universal, or even very general, education is, however,
a factor but recently brought into play.   Whatever may be
the strength of the break which it may exercise in the
future, it counts for little in a survey of the experiences of
language in the past   While the men of letters of the later
Roman Empire were keeping alive their array of noun-
inflexions, the people at large were dropping them   They
had evolved, by the use of prepositions, a greater precision,
and by means of a recognised word-order a more facile
manner, than pertained to the standard Latin declension in
the shape to which it had become reduced in historical
times   Since *ad*, *dē*, *in* and the like expressed all that
needed expression, it was supererogation to retain therewith
such terminational distinctions as those in *ad locum*, *in locō*,
ad Rōmam, *dē Rōmā*   Consequently these distinctions fell
into a secondary place in the consciousness of the speaker.
There being no necessity for their distinct and unconfused
articulation, the tendency already described to economise
articulating effort was allowed free play   With this went
also the tendency to economise mental effort, by allowing
one and the same form to stand when the work of distinc-
tion was already performed by the preposition   Hence the
Romance languages provide us with nothing more than *lieu*
and *Rome*, or *luogo* and *Roma.*

All this of course occurred gradually and spontaneously,
the speakers exercising no conscious discretion in the
matter   In the absence of any concerted action, the
process of elimination of the useless is seldom very rapid,
and within the Indo-European languages it is nowhere com-
plete   English has dropped the signs of genders from
its adjectives, while French and German have retained
them.   The flexion of French and Italian verbs is still
copious, while that of English verbs is of the slightest.
Meanwhile, English has allowed to persist one person-

termination which cannot offer any greater practical claim to existence than those which have been lost. It says *I have, we have, you have, they have,* but *he has* There is manifestly no more need of a special form for the third person singular than for the first, or than for the second or third plural In the past tense *had* suffices for all. When in English dialect *he have* is used, the sense is as unmistakable as in *he has* ?

If we inquire into the reasons for these different rates of speech at which words have travelled towards the discarding of formative lumber, they will be found to lie mainly in phonetic, not in psychological, conditions. One inflected word has farther to travel than another, when it is to lose its flexion and pass to the simple uniform shape It was a natural tendency for the Romance languages to drop a final *m* or *s* in pronunciation, and it was easy also to reduce a final vowel or diphthong The pronunciation of *locum* as *locu,* and of this as *loco,* might occur from purely phonetic causes. The substitution of the one form for several would in such circumstances be rapid , *ad locum* and *dē locō* would soon show no difference except in the preposition In English the gradual phonetic corruption of a first person plural -*en* to -*e*, and thence to -*e* mute, soon causes the word to coincide with an original singular -*e*, which also passes to *e* mute. But no phonetic corruption would bring the first person plural *habēmus* so close to the first person singular *hábeo*, and, if one form is ultimately to be used for both persons, it will be the outcome of that instinct for uniformity (sometimes called the 'system-instinct,' and commonly the instinct of ' analogy ') which is to be mentioned later. This phonetic consideration accounts in a very large measure for the inconsistencies in the dropping or retaining of flexional signs which are no longer essential to clearness and which are still some bar to ease. It is evident that the tendency to drop elements which no longer possess a use, and to reduce several different forms to one shape, has been assisted by a purely physical tendency to corrupt the final syllables

by lax articulation.   Even the latter, if permitted free play,
would have gone far towards providing a common shape for
words once different   But, first, the phonetic corruption
alone could never produce the same complete identity,
second, the phonetic corruption itself would never have been
permitted to proceed so far, if the very life of the meaning
depended on the information given by the inflexional signs
Speech could not neglect the elements which were essential
to its intelligibility   The interaction of phonetic corruption
and grammatical reconstruction is, however, soon to be dealt
with again in another connection

 2 *First devices of language   not polysynthetic* —The
question of the origin of speech may be for the moment
postponed.   But it may be taken for granted that, when
certain articulate sounds or combinations of sounds had
become identified with certain notions, the earliest devices of
language were exceedingly crude and inadequate.   Not only
would the number of such differentiated combinations of
sound be insufficient to distinguish all the objects and
actions distinguishable by the mind ; but it would prove a
difficult task to indicate the relations of such objects and
actions to each other, to the person speaking, to the person
addressed, or to some third person.   How was it to be
possible to refer an action to past time, as opposed to the
present or future ?   Still harder, apparently, would be the
problem of stating a thing as conditional, as something
which ' would ' occur ' if ' such and such another thing pre-
ceded.   The evolution of the necessary expedients must
have been extremely slow in its first steps, and those which
established themselves must have been the fittest survivals
out of numerous endeavours   Their fitness would be
determined by their greater explicitness, their greater ease
of handling, or by both virtues combined.

 It is self-evident that in its most primitive stages
language must have been almost helpless without abundant
use of two auxiliaries which still play some part—one of
them a considerable part—in the spoken language even of

the most civilised peoples These were gesture (including facial expression) and intonation Gesture would be the readiest means of indicating the relation between two notions For example, the speaker would point from this to that with a motion of the hand to signify the direction in which the action travelled. If a sign of certain numbers might be that of so many fingers held up, a sign for large and indefinite numbers might be the rapid opening and closing of all the fingers, or a wide sweeping of the hands Many such gestures are readily conceivable Intonation, again, would serve for question or command The notion 'if you kill him, I will kill you' might be expressed by the use, first, of the sounds for *you, kill, him* (not necessarily, nor even probably, in that order) accompanied by pointing and a look of forbidding or disapproval, and then of the sounds for *I, you, kill*, accompanied by pointing and a look of threat The gestures would indicate subject and object, the look and tone would express—so far as they were expressed—the condition and the futurity. Gestures, however, are useless in the dark, or when for other reasons the action of the speaker is invisible to the listener. The inadequacy of gesture itself, and the effort to express when gesture failed, called forth all the ingenuity of primitive man, and the gradual development of recognised 'demonstrative' or 'deictic' elements in speech was the consequence. Once in existence, such elements were combined in various more or less ingenious ways, until it became possible to express all the relations known as numbers, cases, tenses, moods, persons, etc.

Theoretically the natural evolution of language was after the kind described. The recognition of an individual object, such as 'dog,' 'man,' 'food,' and of an individual action, *e.g.* 'bark,' 'move,' 'feed,' must precede the recognition of the relation between the object and the action which it performs or which is performed upon it, *e.g.* 'dog barks,' 'man moves,' 'eats food.' That is to say, any combination of sounds expressing the whole thought that a dog barks or food is eaten,

presupposes sounds which represent respectively 'dog' and
'barks,' 'food' and 'eat' Some hold (as Jespersen) that
language began with inseparable irregular conglomerations
(similar to those in the holophrastic tongues) and that the
component elements subsequently disentangled themselves,
the evolution of language giving to each element a free
existence, and providing devices by which such elements
enter into grammatical relations with each other This may
be true in so far as it means that the expression of a com-
plete sentence—containing, for example, subject, predicate,
and object—may have been originally confused, without
definite grammatical principle, and may have consisted
simply of more or less close juxtaposition of the components
accompanied by gesture But it entirely lacks plausibility
if it means that separate sounds, or sound-groups, for separate
concepts were only evolved from a complex of sounds or
sound-groups for complex concepts This is surely to
reverse the chronological order. It is impossible to com-
prehend a genesis of compounds or conglomerations forming
such predications as 'dog barks,' if the components were not
previously in existence and ready to combine for the
purpose. Even in the polysynthetic languages, which
express a whole sentence in one compound utterance, such
as 'bring us the boat,' there is one element which signifies
'bring' and one which signifies 'boat' When other
sentences involve the mention of 'boat,' that element appears,
although it may be again in combination and not isolated.
Such sentence-words imply the previous existence of a sound-
group for 'boat.' By what methods that element is to be
brought into relation with other sound-groups expressing
other notions, so as to form a sentence, is another question
It might be the method of polysynthesis, or of agglutination,
or some other, but, whatever it was to be, the special sounds
expressing the special notion are to be presupposed. Apart
from the facts, first, that polysynthesis is a quite exceptional
linguistic method, and second, that what may possibly be
true for the history of the American Indian languages is not

therefore true for the history of any other family, there is a palpable error of assumption concerning those languages in particular We have no right whatever to assume, as appears to be sometimes assumed, that the American Indian languages necessarily represent a primitive stage of language, or are an example of arrested development. The packing of a number of curtailed words into a compound might very conceivably arise subsequently, and not prior, to a stage in which the words had been as separate as in Indo-European, and in which their sentence-relations had been expressed by some not dissimilar device

In Greek a compound δεσπότης (*despotēs*) = 'master of the house,' and δάπεδον (*dapedon*) = 'house-floor' These words represent respectively δεμ-σ-πότης (*dem-s-potēs*) and δά-πεδον (= *dm̥-pedon*). But these formations follow, and do not precede, the stage of separate words possessed of flection A whole sentence may sometimes be formed in Greek by one word, *e.g.* δαφνηφορέω (*daphnēphoreō*) = 'I bear laurel,' ξυλοτομέω (*xulotomeō*) = 'I cut wood', but these follow, and do not precede, the existence of a separate and inflectible δάφνη (*daphnē*), ξύλον (*xulon*), and φερ- or φορ- (*pher-* or *phor-*) What has here occurred in Greek may very well have occurred on a much larger scale in the holophrastic languages, proceeding indeed so far that the earlier method fell out of existence. Latin, again, has *surgo*, 'rise,' *pergo*, 'proceed,' and these are compoundings and contractions of *sub-rego, per-rego*. *Nāvigo* = 'I drive a ship,' *rēmigo* = 'I drive an oar,' and these are respectively compounds of *nāvi-* and *rēmo-* with *ag-*. But no one doubts the previous independent existence of *nāvi(s)*, *rēmu(s)*, or of the verb *ag(o)*. Here the compounding of the 'most significant elements' of certain words into a sentence-word is so far polysynthesis. And, again, it is not unimaginable that some other language might have done what Latin has not done, namely, carried the practice so far that it ultimately became the regular, if not the sole, method of sentence-forming. In English the vulgar *dunno* is meant for *don't know*, or ultimately *do not*

know, while *not* itself is compounded of *na* and the old English form of *whit*. *Don*, *doff*, and the vulgar *dout* (a candle) are compounds = *do + on*, *do + off*, *do + out* *I'd* and *I'll* are the colloquial forms of *I would* and *I will* To the eye there is an apostrophe , to the ear there is none, but only the monosyllables *ıd*, *ıl* If in formal literature such conglomerations are discountenanced, they are continually being created in popular speech For brevity or from indolence such speech often combines the 'most significant elements' in the separate words, *i e* the minimum of each element necessary for the sense, into a compound If Paris converts *Boulevard St Michel* into *Boule-Miche*, London converted 'Colonial and Indian Exhibition' into 'Colindenes' Doubtless the latter was deliberate, but it was no deliberation which converted *God be with ye* or *God be by ye* into *Good-bye* The German *zur* (= *zu der*) or *beim* (= *bei dem*) are but short steps in the same direction, but they illustrate the same tendency In Kalmuk *üsädsi baınutsi* passes into *üsädsänütsi*, and to distinguish this result from polysynthesis is somewhat futile By an unlettered people, engaged in conversation, the line between separate word and whole phrase is not drawn with the conciseness which belongs to those who have learned to read and write. The tendency of such a people is to run the several words into some sort of amalgam, and that amalgam is obviously later in date than the several words themselves There is no good reason why we should not hold for the polysynthetic languages the view which we are led to hold for other families, viz that a separate sound-group for each of the separate notions contained in a sentence was at one time in existence and in use. The polysynthetic structure now prevailing is quite probably the outcome of an unchecked habit of phraseological compression and curtailment of the kind just illustrated for languages nearer home. In these languages, if we possessed their history, we should probably arrive at the same sort of primitive material as in the amalgamating-inflectional or agglutinating-inflectional tongues.

3 *Primitive material   naming and pointing 'roots'—*
We may proceed to consider the probable nature of this
material   The premises upon which a theory must be based
are derived partly from an examination and dissection of the
material which languages offer, partly from *a priori* reasoning.
The scientific inquirer will not permit conclusions of the
latter kind to prejudice his treatment of the former

In the chapter' upon Morphological Classification it has
been shown that (apart from the polysynthetic American
tongues), whatever structural differences may distinguish
languages into convenient classes, they share (in various
degrees) in a common principle, viz that of attaching, or
juxtaposing, to certain main or ' predicative ' elements certain
other elements whose function is ' formative '   These may
take the shape of prefixes, suffixes, infixes, or separate
particles, whether pre-posed, as in our own prepositions, or
in postposition, as with certain Japanese elements and certain
Chinese ' empty words '   The modern analytic tongues are
known to be the outcome of older synthetic languages, and
we may therefore go back to their synthetic stage before we
enter upon speculation in place of assertion

Whether now we examine the amalgamating or the
agglutinating speeches, it will be found that two classes of
elements are readily distinguishable   The one is a 'naming-
element,' whether of object or action, and is commonly styled
' predicative ' (sometimes ' nominal ') ; the other is a forma-
tive element, or a grammatical sign, and is frequently styled
' demonstrative ' or ' deictic ' (sometimes ' symbolic,' and less
appositely ' pronominal ')   A single naming-element in its
simplest form is called a predicative ' root ' ; a single
formative element in its simplest form is also frequently
called a demonstrative ' root.'   Since the term ' root ' is
often loosely and inaccurately applied, sometimes to whole
stems and sometimes even to whole words, it is necessary
to define its scientific use.   A predicative ' root ' is that
naming-element which is present (whether in an obvious
form or phonetically disguised) in one and all of a series of

cognate words, each of these being formed upon it, as upon
a common core or nucleus, by means of other elements which
have their special purposes   Thus the Latin *tenuis* and *tendo*,
the English *thin*, the Greek τείνω (*teino*), ταναός (*tanaos*),
together with their parts, derivatives, and compounds, are
all formed from the same Indo-European root **ten*, of which
the sense was 'stretch' or 'pull.'   According to various
degrees and natures of the accentuation (pitch or stress)
which it might bear in different circumstances, this root was
pronounced in Indo-European times as *ten-* or *ton-* or *tn̥-*,
and, if we describe it as *ten-*, the practice must be regarded
as one merely of convenience, this form being chosen because
it is the one which was apparently employed when the accent
fell in the most clear-cut manner upon the root itself.   In
the English *be*, the Latin *fui* and *super-bus*, the Greek φύω
(*phuō*) and ὑπερφυής (*huper-phuēs*), with their cognates, we
arrive at a common core in the shape of the Indo-European
*bheu- (which again has by-forms **bhu-* and **bhu̯-*)   The
application of the special phonetic laws of the several
languages, as ascertained by scientific inquiry, leads us to
postulate, with a fair degree of certainty, the presence of a
'root' **ten-* in the one series of words and of a 'root' **bheu-*
in the other series.   Such a root, as far as we can go back
in the family of languages, is almost never found as an
independent word (although the Latin imperative *i* 'go,
and the Greek εἶ, may very well represent the pure root
*ei), but it regularly carries with it some other element
of the non-predicative nature.   This fact has led some
writers to speak of such roots as 'abstractions.'   Abstrac-
tions they are, in so far as their separation or enucleation
from the words which contain them is an act of thought ;
but the term must not be applied to them as denying that
they ever possessed a separate existence.   The absence of
positive ocular or auricular proof can hardly weaken the
overwhelming probability derived from common reason
If as the core of each of a list of words, whose meanings
literal or figurative, are related, there is to be found a common

element *ten-* (varied only by grades of pitch, stress, or dura-
tion of utterance), how are we to account for the fact, except
by supposing that a sound-group *ten-* had acquired an in-
dividual shape and a 'naming' power of its own in the minds
of primitive speakers, before any words could be formed
involving it?   How, in an agglutinative tongue like Turkish,
did the clear and distinct syllable *sev* come to be a base
upon which was built a whole series of words connected
with 'love,' unless a value 'love' had been previously
assigned to the sound-group *sev*?   In Semitic the three
consonants *qtl* are the constant elements in a long series
of words connected with 'killing'   The differences of the
words lie mainly in the vowels enclosed or attached to this
framework.   Yet how came this framework to exist in each,
and to be always associated with this meaning, unless its
naming value had been first recognised?   No pronounceable
form of a 'root' can indeed have consisted merely of the
three consonants (any more than the Indo-European **bhu*
can have had an absolutely separate existence like **bhu* or
*bheu), but it is not claimed for Semitic that the consonantal
roots at which we arrive by the enucleating process represent
the earliest shape of the independent utterance expressing
the single notion   In all families of language we arrive
at a list of predicative roots for that family , and it is hard
to doubt that at some primitive stage these had been
recognised as separate sound-groups possessing a naming
power of their own.   We cannot indeed be sure, nor is it
asserted, that when we have arrived at an Indo-European
*ten we have discovered a syllable which sprang fully
formed from the lips of remote ancestors of that people.
It is not denied that *ten* itself may have been gradually
built in some miocene period of language out of still
simpler constituents, such as a stop-sound *t* and a sonant
nasal *n*.   An attempt to vocalise the act of 'pulling' may
possibly have been made in the poor efforts of one portion
of very primitive humanity, by first pressing the tongue
against the teeth while drawing the arm back with a strain,

and then, as the strain increases, letting the tongue press back along the gums with the pull of the body, while the air is allowed to escape through the nose. Anyone who pronounces *tn* in a protracted manner while making these motions will realise that such a development is by no means unnatural But, though such a suggestion may be thrown out in passing, it leads to speculation beyond the immediate point That point is that families of languages provide us with predicative 'roots,' which, for all that we can discover of those families, are irreducible For the most part (though Semitic is an exception) the roots reveal themselves as mono-syllables, and, the more sagacious and penetrating etymology becomes, the more simple is apt to be the form of root arrived at. Thus the Latin *fundo*, with perfect *fūdi*, is not referred to a root already containing *d*, still less *n*, but is first simplified into *fu-*, which relates itself to the Greek χυ- (*chu-*) in χύσις (*chusis*) Similarly *facio*, with perfect *fēci*, is not referred to a root containing *c*, but is first reduced to *fa-*, which finds its entirely certain congeners in the remote-looking English *do*, Greek θη- (*thē-*) *A priori* it would be supposed that a primitive utterance expressive of a single concept would consist of sounds uttered at one effort or impulse of the breath—that is to say, of a single syllable—and the theory is in general borne out by etymological investigation The roots arrived at are regularly monosyllabic. The Semitic dissyllables may themselves very well represent a second stage in development, being already composites at the date when we first discover them

The independent existence of predicative or naming roots of a monosyllabic shape being thus extremely probable, it remains to consider the subordinate elements which act as 'pointers' to the relations or special applications of such roots These are the formative, demonstrative ('deictic'), or 'symbolic' elements which serve as flexion-signs. Given a naming root *ten* ('pull'), by what process does *tenio-* come to be formed, and to possess the sense of a verb applied to the first person singular ('I stretch')? If the

Latin *fac-* ('make' or 'do') represents *fa-c-*, and if this is reducible to **dhə-k̑-*, what and whence is the *-k̑-*? If **u̯oq-* denoted the general sense of 'utterance' or cry, how does the addition of **-os* or **-es* (**u̯oqŏs*, **u̯oqes*) determine the meaning to be that of a noun in the genitive singular (= 'of an utterance'), while the addition of **-m̥* (**u̯oqm̥*) makes it an accusative? If in Turkish *-lar* (or by vowel-harmony *-ler*), added to a singular, formed a plural, how did it come to have this effect? Why in Zulu should umu*ntu* mean 'man' and aba*ntu* 'men', and why should the prefixing of *ng-* denote the grammatical relation '*with* the men'? The hypothesis which would naturally arise is that these added elements also once possessed an independent form and meaning. It is difficult to comprehend how a factor like *-k̑-* or *-os* or *-m̥* or *ng-* or *-lar* ever came to perform the work which it does perform, unless at some earlier stage it meant something which, by juxtaposition (or actual union) with the naming-root, determined to some special application the general sense inherent in that root. That is to say, it pointed out (or 'demonstrated') a certain bearing of the 'named' sense. If the bearing was not made sufficiently precise by one such addition, it was an obvious device to employ yet another, or a number. A great part of the evolution of language would be achieved by tentative efforts to that end, and by a process of natural selection of the fittest. No objection to this view should be felt from the apparently unpronounceable character of *-k̑-* or *ng-* in isolation. It should be manifest that the original independent shape was not merely *-k̑-*, but something more (e.g. *ko*), and not merely *ng*, but something more. In the English *man's* we write an apostrophe, but we do not hear it. The word is now nothing more nor less than *mans*. To one who argues that *-s* could never have had an independent existence, the answer would be that, as a historical fact, it was once *-es*. (Moreover in this particular instance the assumption itself would be incorrect, since *s* is quite capable of a sonant value.)

 4. *Origin of the pointing or deictic elements.*—The fact

that these demonstrating elements were secondary in importance would cause them gradually to assume the lightest possible form compatible with the serving of their purpose Their phonetic abbreviation would proceed according to the principle of economy already sufficiently illustrated In English *don't* (heard as *dōnt*), *not* is no longer a separate word , it has passed from the enclitic stage of *dó nŏt*, become a negativing suffix, and in that capacity has lost much of its original phonetic contents. Similarly, as a prefix, *ne* became *n*, and in old English *nill = ne will*, *nas = ne was* In Roumanian *domnul* is the sufficient outcome of *dominum illum* (the subjoined article), while in French *le* or even *l'* (which, though written separately, becomes practically part of its noun) is all that remains of Latin *ille* (*illo'*). Whether as prefix or suffix, therefore, the demonstrative element would in most instances go through considerable curtailment, and possibly other phonetic corruption. This fact renders much more difficult than it might otherwise be the attempt to discover the original independent meaning of these elements It is impossible to speak with any confidence of their 'root' sense, when we cannot discover their 'root' form If the history of the English suffix *-ly* were lost, no speculation would be likely to hit upon the truth that it was once *lice* and meant 'with the body,' just as the French corresponding termination *-ment* is the Latin *mente*, 'with the mind' If some bold spirit did make a happy guess at the origin of *-ly*, he would find it hard, in the absence of the direct evidence, to prove his case It might be strengthened by quoting, first, the vulgar use of *-like* (*corpselike*), second, the Homeric expression δέμας πυρὸς αἰθομένοιο (literally 'with the body of blazing fire' = 'like blazing fire') ; but it would remain at most a plausible suggestion.

In dealing with the demonstrative or formative elements as we find them clearly in use at the earliest stage of Indo-European, Ural-Altaic, or Semitic actually known to us, we lack all data as to their past career. It must be remembered that even the pro-ethnic (or Ur-) Indo-

European or Semitic, at which we arrive by induction, is a comparatively late stage in the history of those primitive tongues   There must have been millennia of previous development in each case   To trace back the formative · elements to their original independent shape and meaning is practically a hopeless task   Doubtless some were once predicative and named an action   Others were probably natural sounds of an exclamatory nature, which accompanied pointing and other gesture, and which came to signify what the gesture itself signified, viz such notions as 'here,' 'there,' 'to,' 'from'   In some instances we may guess, so long as we are satisfied to acknowledge that we are but guessing   If Sanskrit has -s-ya- as formatives of a future stem of verbs , if Greek appears also to have -σ-ιο- (-s-i̯ŏ) , and if the sum of evidence leads us to believe that the primitive Indo-European used a future formation in -s-i̯-o- (e g *deik̂-s-i̯-o-), we may speculate as to the meaning once possessed in independence by these particles or by the roots from which they have been curtailed   It would be no absurd conjecture that -s- is the root *es- ('be') while -i̯- is an abbreviation of the root *ei or *i ('go')   Here we should have two curtailed roots originally predicative, employed as pointers to another root, that to which they point being the sense of futurity.   The total sense would thus be 'show-be-go'   Strange as this may look, it is not far removed from our own 'I am going to show.'   Colloquial French substitutes for its future *je dirai* (which itself means 'I have to say') *je vais dire*, 'I go to say.'   Similarly Greek has the idiom ἔρχομαι ἐρέων ('I *come* about-to-say')   In English 'I *am* to say' is a familiar turn of phrase.   In Latin the futures in -bo (e.g *amābo*) are formed from the root *bheu- ('be') already mentioned, and are therefore equivalent to 'I *am* (to) love,' etc.   Since 'I *go* to-' and 'I *am* to-' are thus well-substantiated manners of expressing future action, it is not improbable that primitive Indo-European employed both these methods, the added -s- (i.e. *es) representing the one, and the added -i̯- (i.e *ei)

the other   The combination of the two was for the greater explicitness   This is, however, conjecture, and though it may be plausible in this instance, there are few of the formative elements to which conjecture can be applied with any satisfactory result   It was once assumed, for example, that the person-endings of the Indo-European verb, most familiar in Sanskrit, Greek, and Latin, were identical with the pronouns which are actually found in independent use for those persons   Thus the first person singular ending Greek -μι or -ν (for older -*m*), Latin -*m*, was identified, at least to the extent of the consonant, with the *m* in με, *mē* The third person singular found in Greek in -τ-ο (and also formerly as -τ, which was regularly dropped when absolutely the last sound in the word, e g ἔφερετ), Latin -*t* (e g *ist*, *habet*), English -*th* (*hath*), was similarly identified, to the extent of the consonant itself, with the *t* in the demonstrative τό-ν (*is-*)*te*, οὗτος (*hou-to-s*), found in English as *th* in *that*. There may be truth in these identifications, but unfortunately the probability ends with these two persons   The attempt to connect the second person in -*s* (Greek ἔβης, Latin *erās*, etc) with a pronoun *su* (Greek σύ) is at once put out of court by the fact that the pronoun in question was **tu* (as in Doric Greek, the Latin *tu*, and the English *thou*), while σύ (*su*) is only a corruption of Greek itself, and had no existence in Indo-European times.   For the plural person-endings no rational account can be given of derivation from the recognised extant pronouns.   It is not indeed out of the question that they may be derived from pronouns no longer extant ; the fact remains that we are in no position to prove that hypothesis.

Nevertheless, while we must decide that the original shape and meaning of the once independent demonstrative 'roots' are for the most part beyond hope of ascertainment, there is little room for doubt that they did once enjoy such independence.

It has been argued already that the recognition of an object or an action must precede the recognition of the

relations of objects to actions or to each other   The root-
name of the action or object must have existed before it
could be uttered in connection with such relations   The
relations would be various, and would demand various
expedients, which, apart from gesture, would naturally take
the shape of sounds appropriate to such gesture, or else of
root-sounds used in a subordinate manner as helps to define
the bearing of the main root-sound in the particular case
(as in **deik̑-s-i̯-*)

When we have passed the period of dependence upon
gesture, the pointing element is indispensable   Along with
the chief notion, as expressed in a root-word, would go such
deictic or defining element or elements as the case seemed
to require   Whatever the source or sources of these, they
would be developed gradually and tentatively from the efforts
of various individuals and generations.   Once found effective
in use, such an element would be repeated for the same
purpose when the next need arose   Its use would spread
from individual to individual until it became part of the
inherited tradition of a speech-community

5 *Deictic elements become suffixes* —In the first instance
the 'deictics' would be simply juxtaposed   As a purely
hypothetical case we might assume a demonstrative element
-*i*, originally accompanied by a gesture, and meaning 'here'
or 'there' (viz 'where I point').   Such a particle might
or might not be identical with a naming-root 'go,' that
root being itself nothing but an exclamation accom-
panying a gesture to indicate a direction   The derivation,
however, is beside our immediate point.   An expression
equal to 'at the house' ('at home') might be constructed
by means of a juxtaposition, 'house here,' say **u̯oik̑ i.*
The regular use of this same juxtaposed element, wher-
ever occasion called for it, would, as in the case of the
English -*ly* (--*lice*) and the Chinese 'empty words' (e.g. *tsz*),
cause it to be treated as a mere sign.   Articulated rapidly
in connection with the root-word to which it referred, it
would become virtually one with it (i.e. **u̯oik̑i*).   That is to

say, it would become a suffix, and would be destined, in the far-off days when language became a matter for grammatical examination, to be called a 'locative' ending　When in Japanese 'at school' máy be written as either *gakko ne* or *gakkone* ('school-at'), we are able to see the step taking place before our eyes.　When French writes *celui-ci, celui-là*, we have a purely scholastic hyphen, which means nothing in speech, while in *ceci, cela* not even the written sign of separation is left

The same secondariness of the suffix (illustrated in an easily recognised form in the Ural-Altaic adaptation known as 'vowel-harmony') commonly causes it to be phonetically slurred or abbreviated　The reasons which have shortened the pre-posed English *of* and *on* into *a* (*aboard*, etc), or *o*, as in the vulgar pronunciation usually represented by *o'* (*the Pope o' Rome*, etc), may operate no less when the pointing element follows.　The docked articulation serves its purpose, and economy of time and effort is once more achieved.

6. *Suffixing replaced by pre-posing : the psychological reason.* —So far we have spoken as if the added demonstrative element necessarily followed the predicative root , and this, speaking generally, was the rule of primitive speeches　Their flexion, derived from juxtaposition, was terminational. This is the rule of early Indo-European, Ural-Altaic, and almost all other 'agglutinative' speeches.　It is also the rule of early Semitic (in regard to which family we are not here considering the very obscure question of the further phenomenon of internal vowel-change)　It is not, however, the rule of the Bantu family, which is prefix-agglutinating, and it is a principle from which the modern analytic tongues are steadily withdrawing.　Terminational flexions or postpositions are giving way to pre-posed pointing words, known as prepositions and auxiliaries.　For Bantu *ngumuntu*, i.e. *ng-umu-ntu* = 'with (the) man,' while *ng-aba-ntu* = 'with (the) men.'　In the absence of records we are not in a position to decide through what evolution the Bantu languages have passed　When English invariably puts *with* and the like

in the same position as the Zulu *ng-*, and makes these pre-positions serve for flexion, we are aware, from our more extensive knowledge of the history of Indo-European, that this grammatical device is of late grôwth It is the 'analytic' method, as opposed to the synthetic We cannot tell that the Bantu tongues have not made a somewhat similar reversal of order from an older system. There is doubtless no need to assume it, and there are no data to prove it, but, considering the general similarity of human evolution and the fundamental likeness of mental processes among all races of the world, it is a theory far from improbable It would appear natural that primitive man should utter first the sounds which denoted the concept upon which his mind was primarily set. The relating elements would follow. That the Bantu languages should form an exception is not impossible, but is open to legitimate doubt

The tendency to pre-pose qualifying words, which is so marked in the analytic stages of languages that have once been synthetic, and which appears in Chinese, reveals itself also in the pre-posing of the demonstrative signs. This reversal of the primitive principle cannot but be due to some good psychological reason, however difficult to discover.

To the primitive speaker the post-posing of the qualification may have been natural for the reasons already given. But it does not follow that it was the ideal method of expression for the listener. The aim of language in its evolution is to communicate thought in the manner most sure of ready and complete apprehension by the hearer, not primarily in that which first suggests itself to the speaker. From the results of ages of experience it becomes possible to realise the normal workings of the human mind, and to adapt the arrangement of words—pointers and predicatives—thereto. This is not, of course, done deliberately, nor after any psychological study. Speakers in all ages have perceived difficulties in making themselves precisely understood ; they have been conscious of slow apprehension on the part of the hearer, and innumerable varieties of effort have been put

forth to secure greater readiness and fulness of comprehension.
From the varied effects of these efforts, intuitively recognised
as successful or unsuccessful, there emerges by natural
selection a certain ordering of the words which is psycho-
logically preferable.

Herbert Spencer, in his essay on " The Philosophy of
Style," remarks· " We have *a priori* reasons for believing that
there is some one order of words by which every proposition
may be more effectively expressed than by any other ; and
that this order is the one which presents the elements of the
proposition in the succession in which they may be most
readily put together.   As, in a narrative, the events should
be stated in such sequence that the mind may not have to
go backwards and forwards in order to rightly connect them
.   so in every sentence, the sequence of words should be
that which suggests the constituents of the thought in the
order most convenient for building it up "   He illustrates by
the position of the adjective in 'a black horse' as opposed
to that in the French *un cheval noir*, arguing that, if 'horse'
is pronounced first, the hearer's mind conjures up some
picture of a horse (probably brown) which must be corrected
to 'black' by the next word , whereas the prior mention of
'black' calls up nothing but the notion of a colour, which
waits for the mention of the object to which it is to be fitted
The mental acts may be incalculably rapid, nevertheless they
have to be performed

If this is psychologically true, it is true also of the
evolved tendency to pre-pose deictic or 'empty' words
instead of suffixing elements of the same value.   The
mention of a thing, followed by the specification that we
are considering that thing as possessor (genitive) or recipient
(dative) or source (ablative), is open to the same objection
as the expression 'a horse black.'   To the speaker the pro-
position is clear from the beginning.   The problem is to
prevent the need of any travelling back or correction of
thought evoked in the hearer.   With the Latin *mecum*
(literally *me with*) there might arise in the listener some

false anticipation or preconception formed at *mē*, to be corrected—although in an infinitesimal fraction of a moment —by *cum* (*with*) Thought may at the word *mē* have entered a step, or glanced, into a side-path, from which it must again withdraw On the other hand, *cum mē* helps the mind forward on the only possible track With the utterance of *cum*, or *with*, no picture is conjured up, but only a sense of a certain relationship, and the mind is led onward to look for the word to which that sense attaches

7 Development of the newer method   interaction of psychology and phonetic decay , different rates of the latter— That language has followed, or is following, this evolution is highly probable   Some speeches have proceeded much farther than others, but the explanation of such difference of progress is not to be hastily assigned   The extent to which various languages have advanced in this direction of psychological adaptation is not necessarily an index to the mental development of the speakers respectively.   It does not follow, because a language has reached the pre-posing analytic stage, that those who use it are therefore more advanced in thought or social civilisation than others who use a terminational flexion or synthesis   The average Athenian intellect of twenty-four centuries ago was at least equal to the average intellect of the present-day Englishman or Frenchman   If the Bantus are found to employ the psychologically more easy method of pre-posing (or prothesis), it is not therefore to be assumed that they would require to have reached a higher stage of mentality than a Dravidian, who employs post-positions.   There are other considerations. The rapidity of a change in linguistic method may depend upon various circumstances   If the post-positional or in-flexional method has for some reason—such as phonetic corruption   become complicated, confused, difficult or in-effective, the unconscious motives to the newer device are strengthened   This has been the case with the Indo-European tongues, as will be illustrated immediately.   On the other hand, if the post-positional method has been kept

clear and simple, as in the most typical of the Ural-Altaic
speeches, inducement to change is minimised.   The motives
which lead to change are to be found in difficulties ex-
perienced, not in any mere desire of change.   Again, peoples
speaking different languages sometimes become blended over
the same area, as through conquest of one by the other   If
in such instances there is a struggle of each to understand,
or to make itself understood by, the other, the result will
be a quickening of the efforts above described   The old
manner is rapidly broken down in favour of one more
adapted to easy comprehension   Such a case has occurred
in Persia, where the conquering Arab, with his Semitic
speech, was perpetually endeavouring to comprehend the
native, with his Indo-European speech   The outcome of
the struggle was that the native Persian language met the
Arab half-way in vocabulary, while in respect of structure
it gradually abandoned synthesis for analysis   Though it
is easy to overrate the influence of the Norman invasion
upon the native English speech, there is no question that
it greatly accelerated the decay of English flexion and the
acceptance of its alternative.   The speedier progress of
certain languages towards pre-posing and analysis is mainly
due to these two causes · in some cases a conflict of tongues ,
in other cases the difficulty or ineffectiveness into which the
flexional system happens to have fallen.

The latter requires some illustration.   If we assume- a
pure assumption for the sake of such illustration—that
primitive Indo-European expressed a dative case (the
recipient) by means of the termination *-ai, an ablative
(the source from which) by *-ad, and an instrumental (the
means by which) by *-a, the distinction implied would be
clear (though it might make an occasional strain upon
attention) so long as these terminations were fully and
unequivocally articulated   *eḱuo + ai, *eḱuo + ad, eḱuo + a
serve their respective purposes, although even at this stage
it is palpable that the method is scarcely ideal, if the aim
is ease to the ear and mind of the listener.   But if in

process of time the three words, true to the amalgamating
tendency (which is ultimately little else than a tendency to
quick or economical utterance), are compressed in shape and
result into *ek̑u̯ōi, *ek̑u̯ōd, *ek̑u̯ō respectively, the discrimina-
tion between the first and third becomes difficult and un-
certain If, in further process of time, a language like
Latin, with a phonetic tendency to drop certain final letters
—a practice habitual also to the Greeks and well known in
modern French—reduces all the three forms to *ek̑u̯ō (*equō*),
there is no longer any distinction between dative, ablative,
and instrumental case   The hearer is compelled to gather
the intention from the context with some labour of mind
(even if the labour be unconscious) and with no little chance
of error   Endeavour to secure greater ease and precision
would inevitably follow corruption such as this.   The
endeavour would be unconscious, but it would be widely
spread, and many speakers would light upon practically the
same device, which would pass (by the notorious contagion
of language) into the mouths of those who might not have
evolved so convenient an expedient for themselves.

The example here given is scarcely exceptional.   In
both Old English and Old French the tendency of articula-
tion was to slur all final vowels (-a -o -u -e) into one and
the same, written as -e, but pronounced as -ə.   Such a
tendency, if permitted full play, necessarily ends in the
destruction of systematic declension and conjugation.

We must not, however, attribute the free use of the pre-
posed elements solely to such phonetic confusion.   The
phonetic corruption would itself have received some check
from the practical necessity of remaining intelligible.   The
truth is that the two tendencies interwork and mutually
support each other.   On the one side, the psychological
motive was prompting to the substitution of prepositions,
pre-posed personal pronouns, and auxiliaries ; on the other,
the phonetic confusion of ending was increasing that motive
and accelerating its operations.   These pre-posed elements
did not require invention or new creation.   The means for

a new system were within reach   Adverbs with meanings such as 'under,' 'withal,' 'down,' 'out,' 'away' (represented in Greek by, *e g*, ὑπό, σύν, κατά, ἐκ(ς), ἀπό and in Latin by, e.g., *sub, cum, dē, ex, ab*) were already in use in synthetic sentences   They 'governed' no nouns, but qualified the whole predication.   Thus, in an early form of such sentences, one might say 'He came, and they came *with(al)*'   The position of *with* was free (*e g* 'and, with, they came')   Very early Greek, for example, might say οἱ δὲ ἦλθον ξύν, or οἱ δὲ ξὺν ἦλθον, or ξὺν δὲ ἦλθον ἐκεῖνοι   Similarly, 'I threw away,' or 'I away threw,' or 'away I threw'   A sentence in a primitive stage of Greek might be formed after this pattern   'as-regards-a-horse (or for-the-horse), they came with,' or 'they came with, as-regards-a-horse,' or 'they with came, etc.'   Put into Greek words the sentence is ἵππῳ (a dative case of the thing advantaged or affected) ξὺν ἦλθον (*hippōi ksun ēlthon*), or ἦλθον ξὺν ἵππῳ, or ξὺν ἦλθον ἵππῳ   So 'I threw away, starting-from-a-bag,' or 'I away threw, etc,' might be represented by, *e g*, ἀπὸ ἔβαλον σάκκου (*apo ebalon sakkou*), or σάκκου ἄπο ἔβαλον, or ἔβαλον ἀπὸ σάκκου, where σάκκου is inflected so as to signify the point of departure   Originally, in an example like the last, it is the inflexion of the noun which indicates departure, and ἔβαλον σάκκου (*ebalon sakkou*) would be sufficient in that sense   But the demonstrative or pointing word (here an adverb 'away') assisted the comprehension of the general meaning , it helped and determined the sense intended in the inflexion of the noun.   Meanwhile, in point of position the adverb very often immediately followed or preceded the noun, although originally it in no way determined the inflexion itself   Thus ξὺν ἵππῳ or ἵππῳ ξύν (*ksun hippōi* or *hippōi ksun*), ἀπὸ σάκκου or σάκκου ἄπο, and the like, came to be frequent combinations   The closeness of such position, and the fact that the separate pointing-word was assisting the meaning of the inflexion, caused the adverb to be regarded as actually an appurtenance of the noun.   Since, again, the psychological principle

above described was leading to the utterance of the relational or pointing word before, rather than after, the utterance of the word whose relations it demonstrated, it became customary to say ξὺν ἵππῳ rather than ἵππῳ ξύν, ἀπὸ σάκκου rather than σάκκου ἄπο   The same phenomenon, and for the same reasons, occurred in Latin, and if we find a solitary example of post-position surviving in the case of personal pronouns with *cum* (*mēcum*, *tēcum*, *vōbīscum*, etc), that instance merely serves to indicate the former freedom of the help-word and also the subsequent almost total restriction of that word to one position   These steps have converted what were once adverbs into prepositions, which have come to be regarded as 'governing' certain cases of nouns. The greater clearness, and the superior psychological fitness, secured by this development naturally led to an increasing use of such 'adverbs turned prepositions,' till inflected cases—which were once treated as sufficient in themselves—were regularly introduced by them

Some noun-cases, as has been stated, had become so obscured or confused in pronunciation that the help was necessary, if due discrimination of sense was to be maintained On the other hand, when prepositions came to be thus regularly used in introducing the nouns, it is obvious that the different inflexions were of secondary importance, or, from a practical point of view, of no importance at all Their presence or absence in most cases made no difference to the clearness of expression, and there was little motive for checking the universal tendency to phonetic economy. If in *ad Rōmam*, and *dē Rōmā* the preposition told all that was required, there was a removal of the cause which had once kept -*am* and -*ā* distinct in articulation. It thus appears that we cannot judicially speak either of phonetic decay as having produced the analytical method as a remedy, nor yet of the growth of the analytical method as having produced the phonetic decay. The truth is that there is an interaction of the two processes, which began independently of each other.

What has been said of noun-flexion and its decay in favour of the prepositional method, may be said also of the decay of verb-flexion and the substitution of pre-posed pronouns and auxiliaries • If the purely analytical development has not been so complete in this case, it is not because the psychological motive thereto is wanting or inoperative, but because it has a larger field to cover and more material in the shape of a *damnosa hereditas* to dispose of The same phonetic corruption which brought the noun-flexions so near to each other and made it easy to ignore such comparatively small differences as were left, has played its part upon the verbs also , but the endings of person and tense were more widely differentiated than those of case, and phonetic erosion pure and simple would require a considerably longer period to bring the various forms within the same danger of confusion Consequently the psychological tendency has not received the same impetus from this quarter In the English past tense *had*, the same form (with the exception of the almost disused second person singular *hadst*) is used for all persons. The pre-posing of the pronouns has made this possible The same preposing might suffice for French, yet French has brought only the three persons of the singular and the third plural to identity. In *j'avais, tu avais, il avait, ils avaient* (in which, apart from *liaison*, we may ignore the spelling) there is one and the same articulation of the verb (= *æve*) But in *nous avions, vous aviez* the flexions remain distinct. Despite their practical uselessness, they persist. The explanation of these facts is that which has been given. Take, for instance, the English *had*. If we go back to Gothic (which is not a direct ancestor of English, but which shows earlier flexion in a peculiarly distinct form for Teutonic) we find the tense proceeding thus—

> *habaida*
> *habaidês*
> *habaida*
> *habaidêdum*

habardeduth
habardedun

In Old English the forms analogous to these have been
phonetically compressed and their terminations slurred into

haefde
haefdes(t)
haefde
haefdon
haefdon
haefdon

The subsequent conversion of *on* into -*en*, thence into -*e*,
thence into -*e* mute, and then into the non-existent, represents
a number of easy phonetic steps, which there was nothing to
retard, since the pronouns *I*, *he*, etc., were found entirely
adequate for differentiation. But *haefdest*, according to
English phonetic tendencies, was not liable to the same
rapid corruption. The phonetic slurring of a final -*st* is no
necessary tendency of those who slur a final *n*. Had there
been any such tendency, the second person singular would
have taken the shape of *had* like the rest. For French we
have to begin with the Latin

habebam
habebas
habebat
habebimus
habebatis
habebant

It will be noted that in four of these the accent falls
upon the *e*, in two of them it is upon the next syllable.
Any purely phonetic corruption which takes place will
affect terminal letters and unaccented syllables; it is the
accented syllable which is the last to be influenced, and it is
never so influenced that it disappears. Hence the identity
of pronunciation which has resulted in French in four of the

persons, as against the different aspect of the two others. Had the accent fallen throughout upon the *e*, the French of to-day would probably (*liaison* apart) have been employing one pronunciation (whatĕver they might write) for all the persons of the tense. It is no feeling of the need of differentiation which retains the varied forms ; nor does their present existence mean that the unconscious psychological tendency to remove them is dead. Theiî retention, if it is permanent, will be due to the artificial action of literary education.

8 *Historical phenomena as arguments for the prehistoric —* If we once accept the doctrine, now sufficiently expounded, that for ease of comprehension the pointing element is better pre-posed than suffixed, it will become obvious why the use of auxiliary verbs, ' will,' ' may,' ' do,' ' have,' tends to supplant the use of those flexions which once expressed the same sense. But it will be observed that, whereas such elements as ' will ' or ' have ' once possessed independent predicative values ('to be minded,' 'to possess '), they have now, as auxiliaries, lost those values, and have become mere pointers, help-words, the 'empty' words of the Chinese   The same is the case with ' I am going to do ' (*je vais faire*)   It is the case also with the adverbs which have passed into prepositions.   No intrinsic meaning now attaches to 'by,' ' with,' or 'at'

In these phenomena we have palpable facts and linguistic history to draw upon   What more natural than to use them as arguments for the view already set forth as to the origin of the older flexional forms ?   It was argued that in all probability a naming-root, e.g **uork*, was first followed by an independent element, e.g *i*, with a meaning of its own ; that gradually this substantial meaning disappeared (as in the Chinese *min tši lik*, '*people's power*,' where *tši* originally meant ' place ') and the element *i* became merely demonstrative ; and that finally it was amalgamated with the previous word (like *j'aurai = ego habēre habeo*) and so passed into flexion   The only difference between that process in

linguistic history and the process called analysis—with its prepositions and pre-posed auxiliaries—is that in the former case the pointers follow, in the latter they precede And it has been contended that, while the former manner may be the more ready to the speaker, it is the latter which is the more facile and effective for the hearer, and therefore, since the evolution of speech is in the direction of easier and fuller comprehension, the latter method is the natural outcome of such evolution

9 *The beginnings of speech are unconnected monosyllables* — The view that language began with unconnected monosyllables is not only to be deduced from the indications of linguistic history itself It is also the almost inevitable *a priori* hypothesis According to a cognate science the biological history of the individual from the earliest embryo is an epitome of the evolutionary history of the race His 'learning to walk' is an epitome of similar character His linguistic history should also afford some clue to the evolution of human speech It happens, however, that after the first efforts at articulation, when command of the organs has been acquired, the child steps almost at once into the full inheritance of both the vocabulary and the grammar which countless generations have evolved Nevertheless, so far as the evidence goes, it supports the theory that the utterance of isolated monosyllables was followed by their simple juxtaposition to each other The child passes from inarticulate 'gooing,' crowing, and crying to the simplest combinations of vowel and consonant, e.g *ma, da, ta, mū,* and the like. With increasing control of the articulating apparatus it achieves monosyllables with fuller contents, *e.g. cat, tat, puf(f), pus(s), div (= giv), dis (= this).* For a time there is a noticeable want of flexibility and a failure to articulate even monosyllables, when there are more than three constituent sounds. Thus *spoon* may be uttered as *poon* or *foon,* still as *till, floor* as *foor, flow'r* as *fow'r.* It is found easier to repeat a simple monosyllable (*papa*) or to pronounce two monosyllables (*baby, naughty*) in

quick succession   The earliest attempts at sentence-making
are juxtapositions with a grammarless shape, e g *me go 'way* ,
not want tea , bad man hurt baby.   It is difficult to resist
the belief that these gradual advances in articulation and
rudimentary attempts at conveying thought reproduce the
advances and attempts of prehistoric mankind.

It is worth while also to observe the manner in which
persons who are foreigners to each other, starting with
reciprocally unintelligible languages, make their first attempts
at communicating thought   The 'pidgin' speech which is
first developed regularly consists of the chief naming-words,
accompanied by some demonstrative words and by gesture,
but without grammar   It distinctly recalls a 'baby language'
The speakers in such circumstances are not ignorant of
grammatical devices of their own tongues respectively
Those devices have, however, been inherited by them, while,
in respect of the developing 'pidgin,' they are placed in the
position of inventors.   That is to say, they are in a position
somewhat analogous to that of early mankind, when language
was first struggling to express a thought by means of its
very limited material.   It is not unreasonable to suppose
that the analogy applies also in general to the devices
adopted, and, so far as the argument is valid, it supports
the conclusions at which we have already arrived

10   *Origin of sound-groups ('roots') with meanings
theories* —If primitive speech consisted thus of independent
naming-words (apparently monosyllabic), to which inde-
pendent deictic words were juxtaposed, the question still
remains, 'How did these words come to exist?' We may
suppose, for example, that *χoq expressed the general sense
of utterance, while a following demonstrative or 'pointer'
(or several such) determined its special application to a
noun or verb sense, and also its relations to the other words
in a sentence   But how did the group of sounds *χoq come
to attach itself to the notion of utterance?   And how did
the sound *z* (for example) come to express some such notion
as 'there'?   In other words, what was   the origin of

language, regarded as "articulate sounds which are habitually appropriated to certain notions"?

It must be confessed that upon this subject nothing very satisfactory has yet been said or is likely soon to be said   The question is exceedingly far-reaching, and its solution is necessarily devoid of adequate data   What has been the development of human mind?   What have been the relations between the progress of mental operations and the development of the muscular powers and apparatus employed in speech?   How did the psychological stimuli find physiological response?   It is manifest that any sound theorising on the subject of the origin of language must wait its time until the sciences dealing with the bodily and mental history of man have laid a surer basis than they have done at present   So far the theories advanced have been pure guesswork, although the guesses possess various degrees of plausibility

According to one suggestion speech began with the imitation of non-human sounds   Primitive man is supposed to have exercised in a fuller measure the faculty which is found in parrots, cockatoos, lyrebirds, or magpies, and to have reproduced to the best of his ability the sounds which he heard around him   These would not necessarily be the calls and cries of animals, and therefore 'the Bow-wow theory' is scarcely a fair or happy title to apply.   Imitation would not end with the lowing of oxen, the bleating of sheep, and the quacking of ducks, nor with the snarling, snoring, puffing and hissing of man or other creatures.   It would include such sounds as the soughing of the wind, the various noises of clashing, splashing, plunging, breaking, tearing, pattering, and so forth.   Such 'onomatopoetic' words are still numerous in every vocabulary—a number of obvious examples being actually contained in the list here incidentally given

It is quite conceivable that in the first linguistic efforts of early man the ox-species might be represented by a sound like *mū* or *bū*, and that the same sound might stand for the

general notion 'to low' or 'bellow.' In the latter sense
it would first be used in thinking of the ox itself, but it
would speedily pass to any other form of noise which
resembled that of the ox. It would be easy to offer a
long list of similar probabilities. Thus *bā* might represent
a sheep, or the cry of a sheep, and thence possibly be
transferred to any other plaintive cry The *r-r-r* (pro-
longed *r̥*) of an angry dog might serve to denote anger,
not only when felt by the speaker, but when (with gestures)
he attempted to indicate its presence in another It might
become, in short, the root signifying 'anger' It should be
further remembered in this connection that, like the present-
day savage, primitive man, from his way of life and the
needs of the chase and the like, would be in the habit of
keenly differentiating the various sounds made by animals,
the differentiation extending to the cries of the same animal
in different moods The bark, howl, snarl, growl and yap
of a dog, the mewing and purring of a cat, are readily dis-
tinguished by ourselves, because of our familiarity with those
domesticated animals Primitive man would carry his dis-
crimination much further than civilised man has either the
need or the opportunity to carry his The list of sounds
which he might thus distinguish and imitate would be
considerable If used both in their primary sense and also
in transferred senses (such as those hinted for *mū* or *bā* or
r̥), a still more considerable range of notions might be
covered, however crudely. Let us suppose again that rapid
motion, whether of wings or of running, was associated in
the mind of prehistoric man with a sound of skirring or
scurrying or the like To express such rapid motion he
might—the instance is invented solely for illustration—
employ the sound *skr̥* or *kr̥* (probably prolonging the *r*)
From such a use would arise the 'predicate root' *skr̥* or *kr̥*
'move fast,' 'run.'

Though this theory is not here being pressed, it is
no answer to it to urge that, since the sounds of
animals and of inanimate nature are much the same all

the world over, the roots of human speech would also be much the same, and therefore the different families of languages should show a closer fundamental resemblance of vocabulary than is actually the case. There are several considerations which weaken that argument. In the first place, though the sounds of animals and of nature may be much the same, it is not true that they are apprehended in precisely the same way by different ears, or that imitations of them take the same shape in different mouths. Neither the animal cries nor the sounds of nature are articulate, and there is abundant room for diversity in reproducing them. To some ears the cry of a lamb is *ba*, to others it is *ma*. It is in reality neither, since sheep do not articulate with either a human *m* or a human *b*. To the Roman poet a frog seemed to say something like *sub aquā*, to the Greek comedian he said *κοάξ* (*ko-ásh*). The same comedian makes a young pig cry *κοΐ* (i e *ko-ee* or *kwee*). Most of those who imitate the pig would use no *k*, whatever else they might substitute. The inarticulate sound commonly represented in English as *puff-puff* is heard by many as *hŏ́-hŏ́*. To some ears the sound of rapid motion would not be *skr*, but *ur* or something equally remote. In the second place it is not strictly true that the sounds taken from animals would be the same throughout the world. Different families of language doubtless developed in different quarters of the globe, and there was great dissimilarity in the fauna of the various regions. The *bow-wow* of the dog (which, it ought to be observed, is regarded by some as *wow-wow*) might be tolerably general, but the birds and beasts from which sounds were imitated were by no means commonly the same in species or in cry. In the third place, there was extensive variety of choice as to the particular onomatopoetic 'root' which should be employed in a particular sense. If, for instance, *mū* (derived from the ox) is one possible root for 'bellow,' and thence for roaring or reverberating noise, an equally possible root might be derived from the roaring of some other animal, and *rū*, *hū*,

ūr are among easily conceivable shapes If one family
chanced to derive its word for anger from *r-r-r* (*r̥*) of a dog,
another might have chanced meanwhile upon the *s-s* of the
snake Fourth, even if the roots had been once in a large
measure phonetically similar (which we obviously need not
grant), the various phonetic tendencies of the various families
of speech, acting through countless generations, would in-
evitably corrupt them to such an extent that their re-
semblance would in most cases become entirely obliterated.
A root which began as *kr̥* in several families of language
alike, might easily appear, when we first meet with it in
family A, as *sl*, while in family B it might have taken the
shape of *gr*

It has seemed fair to treat the onomatopoetic theory at
this length, partly on its merits as being at least as plausible
as any other, and partly because it is a palpable fact that
many words have been, and are constantly being, formed in
this manner A process which may be observed at all
discernible times of linguistic history, and which instinctively
repeats itself in unlettered speech, has assuredly a claim to
be considered as a highly probable process for the times
which are beyond discovery

Yet, even if we allow that numerous primitive roots may
have found birth in this manner, it would be absurd to
suppose that the human species uttered no sounds of its
own until it began to imitate those of other creatures.
That dogs, oxen, and birds should produce cries and calls,
such as they are, while man was incapable of the same
action for similar purposes or from similar motives until
taught by these, is contrary to reason The 'gooing,' wail-
ing, and crowing of infants are once more nature's reproduc-
tion in the individual of a stage in the infancy of the race.
It is rather to be assumed that, from a superiority of
physical conformation in respect of vocal potentialities, man
would produce a greater variety of such utterances and in
a more articulate shape.

The genesis of such sounds, and their relations with

mental operations, are—as has been already maintained—scarcely capable as yet of discussion upon a scientific basis. In all probability the earliest phase to which we can reduce them is that of physical reflex of a physical sensation. According to Darwin (*Expression of the Emotions*) there is, for example, a purely physiological reason for the production of a certain sound as indicative of disgust. From the same causes which beget other instinctive actions in the cause of self-preservation, there would occur in this case an expulsive or rejecting movement by the breath That is to say, the tendency would be to blow out of the mouth or nostrils, the result being such sounds as are commonly represented by *pooh, pish* Similarly, a shudder is accompanied by *huh*. Pain produces a contraction of the muscles, and such contraction about the oral passage affects the breath-current in such a way that *ah !* results The ludicrous produces an obvious physical effect upon the facial and other muscles, not only without our volition but often in spite of it, and there commonly follows an involuntary ejaculation of the nature of *ha! ha !* or *he ! he !* The notion that language arose from the gradual converting of such sounds into significant 'roots' has been dubbed 'the Pooh-pooh theory' Though some contributions from this quarter should not be denied, it cannot be said to possess the plausibility of the onomatopoetic theory Such ejaculatory sounds would be so few that it is hard to see how they could ever produce from themselves even the most rudimentary vocabulary

There is, however, another theory which deserves more consideration. In this case we are not concerned with the mere reflex from physical sensations, but with a more obvious interplay of psychological and physical action. It assumes deliberate effort on the part of the vocal muscles to adapt their action to some picture in the mind. It has been already illustrated incidentally in the case of an imaginary root *in* ('pull tight'). Those who have set themselves to pull with all their strength have perhaps, along with

muscular tension, set their mouths in a particular manner. They have first placed the tongue against the teeth , then, as all the muscles pull backward, the tongue also draws back along the palate, but the nasal passage is compelled to open.   Experiment, it has been claimed, will show that this spontaneous operation is eminently natural. If any emission of breath occurred during this strain its phonetic value would be *tn*.   So far the production of the sound-group would possess no psychological value   It would simply be a physical concomitant or outcome of the action   But through frequent repetition of the process, and as an impression left by it, such action of the tongue might come to be associated in the mind—however unconsciously—with the notion of putting forth strength in pulling.   Thence, whenever the notion itself arose in the mind, even without the action, there might be a tendency for the tongue, by an act of reminiscence, to respond in the manner which belonged to the action.   Any endeavour to express the notion of 'pulling' would in the first instance be by appropriate gesture accompanied by the tongue-action, and generally by the audible sound-group, described   If this procedure—begotten by identical natural causes—was shared by a considerable number of individuals, the sound *tn* would come to be, in itself, associated with pulling Linguistic uses being highly contagious, that sound would become general in connection with the gesture, and next, in the absence of gesture, would arrive at independent significance, as a full predicative root conveying the sense of 'pull' Standing firm, with tense muscular effort, might similarly be accompanied by a planting of the tongue against the upper gums in a manner from which *st* might result. Although this, we may acknowledge, is guesswork, it at least deserves to be considered as a not unlikely source of many elemental roots.

11. *Word - building inexhaustible from old material: creation of new roots not provable*—Language, then, first reached the stage of possessing both predicative elements

and deictic elements, second, that of combining these.
But not only might the deictic element, or a number of
such elements, become attached to the naming-root, it was
also possible for two or more naming-roots, or for two or
more fully formed and inflected words, to combine with each
other into a compound, as in δε(μ)σπότης, *landscape, birthday,
calefacio*.   It is manifest that the possibilities of creating
new words, and so enlarging the vocabulary, were practically
unlimited.   Such new creation has gone on at all times, and
is proceeding every day, but in the overwhelming majority
of cases, it is simply creation out of old material   Doubtless
at all times the stock of words in a given language was
increased by borrowings from other tongues, whether akin
or alien.   Some words of very early Indo-European were
almost certainly taken from Ural-Altaic neighbours, whether
through trade with them, or through conquest over (or by)
them   The Sanskrit vocabulary accepted a number of
Dravidian vocables, and *vice versa*.   The proceeding is still
in as full life as ever it enjoyed   Yet in all such circum-
stances the material itself needs no creating; it exists
already.   All that is done by the borrower is to adapt the
borrowed word to his own pronunciation, grammar, and
special denotation.   If in modern times we 'invent'
scientific or philosophic terms, we do so either out of Greek
and Latin materials, or, as is the custom in German, by
means of new compounds made from words already in the
language.
     Is there, however, no such thing as absolutely original
invention of a root or word itself?   That is to say, have we
ceased to exercise the creative faculty which must have
been employed by primitive man?   It is customary in
answer to quote the word 'gas' as the single example of a
word known to have been deliberately invented.   It may
be remarked, in passing, that the case is not parallel, since
primitive man did not deliberately 'invent' a root to express
a distinct idea.   The root evolved itself by natural steps in
some such manner as those already described.   Do we

evolve, or have we in comparatively recent times evolved, roots or words in the same manner ? The evidence points to the negative Spontaneous creation appears to be out of the question Necessity is the mother of invention here as elsewhere, and there is no necessity to invent, when the scope for analogical creation is infinite. The vulgar and ignorant have no new conceptions to express, while the cultured know where to look for the most adequate materials of expression. It is an error to cite the inventions of contemporary slang These are never pure 'creations.' It will be found that they always depend upon combinations of sound already existing They may be curtailments of standard words (as in *mob*, *bus*, *cute*), or applications of proper names (e g. *boycott*), or humorous distortions, sometimes deliberate, sometimes accidental, of standard words or phrases (e g. *nary = never a*), or they may be conflations of two words of cognate sense, due to the mind vacillating and ending in confusion (sometimes wilfully) between them Thus from *boom* and *hoist* may be produced *boost* A word like *gerrymander* is the outcome of the proper name *Gerry* conflated with *salamander* by a distinct effort in humorous manufacture Some (e g *vamose*) are foreign terms taken over and generally corrupted beyond recognition For the most part such 'words' have but a transient vogue ; but a few are persistent, and ultimately become part of the accepted language. If we are not always able to trace their origin, it need nevertheless scarcely be doubted that, if dis- covered, it would prove to be of some such nature as in the instances of which we know the history

Apart from words which we know or believe to have begun in such slang, there does exist, as Paul remarks, a large number of words "which can neither be referred to roots of the original language, nor yet proved to be borrowed from foreign tongues" But this fact need not, as he argues, prove the persistence of spontaneous invention. The word *dog* apparently arose in England, whence it has been to some extent borrowed by Continental peoples. It has

supplanted the earlier *hound* in all but one or two specialised uses   Yet no trace can be discovered of the source from which it sprang into use   Since, however, it appears to be the case that the word was first applied to a particular breed of the animal, its genesis would naturally be local, and probably due absolutely to an individual   The name would spread with the spread of the breed, which carried the title with it   Who can be sure that, in such circumstances, the word was anything more than the corrupted name of a place, or of the first conspicuous owner, or the actual 'calling-name,' applied by some abbreviation or some childish mispronunciation, to the first recognised animal of the kind   This suggestion is, of course, the merest guess but there is nothing in it contrary to experience.   It would be impossible to guess, if we did not actually know, why a certain bird which was once a *pie* is called a *magpie*, and thence by children *maggy* or *mag*.   A little parrot is often known in the Australian country districts as a *keet*, and few would guess that a word which once meant ' Little Peter ' had passed through *perroquet* and *parrakeet* to the mere termination of the latter   On the whole, therefore, though we are in no position to deny positively the continuance of spontaneous invention of words or roots, the evidence in its favour is so slight as to render it extremely improbable. The only words (if they are so accepted) which appear to be undeniably created with new circumstances are the imitations of sounds, as with the *tuff-tuff* of the automobile   But for these there are few occasions, and the results seldom grow into standard words

12. *Meaning of 'creation' of new words.*—' Creation ' of words is, and in all discoverable linguistic history has been, simply building.   The existing material of roots and suffixes or prefixes is capable of an incalculable number of new combinations.   The aim of language in its evolution is to express every possible notion in distinction from every other. Different individuals, feeling the lack of a satisfactory word —whether the lack be due to their own limited vocabulary

or to the absolute non-existence of such a word in the language—attempt different manners of supplying it   But in each case they will take existing materials and construct their word from them   The difference of the results will depend upon the difference of the materials chosen, both in respect of the predicative elements and of the defining or demonstrative elements, which in the Indo-European tongues are commonly suffixes.   This difference may occur in naming an object, an action, or an abstract notion.   It may be conditioned by the various aspects under which a thing or phenomenon happens to be regarded by various persons, or by the various suggestions which it calls up in their minds   A *goldfinch* was so called by those who were struck by its colour , while in French it was styled a *chardonneret*, or 'little thistle-bird,' by those who were particularly struck by its fondness for that plant   To the Latins the first aspect of a *dēsertum* was its emptiness or abandonment by mankind.   To the German inventor of words it presented itself as a 'sand waste'   A certain domineering attitude of mind might be regarded as 'demanding too much' (*arrogans*), or as 'lofty' (*hautain*), or as betrayed in uplifted 'eyebrows' (*supercilīōsus*).   Agreeable manners might be described as those of a person 'to whom one might speak' (*affābilis*), or as those of a person accustomed to the Court (*courteous*).   The notion of 'opposite' might be expressed by 'set against' (*oppositus*) or 'face to face' (*vis-à-vis*)   The 'master of the house' might be so expressed, as in δε(μ)σπότης, or as 'the father of the ménage ' (*pater familiās*), or as 'the keeper of the loaf' (*hlaf-weard = lord*)

To express assent one might say 'indeed' (*etiam*), or 'so' (*sīc*), or 'this' (*hōc*), or 'that is it' (*hōc illud*, τοῦτ' ἐκεῖνο), or 'yea' or 'yea so' (=*yes*), or, according to an American turn, 'that's so'   A 'kind' person is one who has natural feeling, a *benignus* was one who was 'well-natured' (*bene, gen-*).   There is no easily conceivable limit to the possible combinations of the available material, when human minds are so subtly various in their processes, and amid such diversity in the

circumstances under which their respective impressions are formed.

13. *A language does not create true synonyms.*—The coinage of words being thus in easy and perpetual practice, it might appear to follow almost inevitably that words are sometimes created for which there is no actual need, the language already containing some vocable which serves the purpose, if the comer of the new word could readily recall it. Yet, upon investigation, few examples of such creation can be found The slang of the vulgar does, it is true, often proceed from ignorance of the resources of the language or from unreadiness in their use But slang of this kind seldom secures a permanent footing. Technical terms excepted, the coinages destined to survive are those of which the want is felt, not by an individual here and there, but by a number approaching the majority They represent a previous deficiency in the language The words *its* and *selfish* are of comparatively recent appearance in English Their utility is self-evident They displaced no other words, since no previous words expressed precisely and only those senses.

It is a principle in the evolution of a language that it has no place for absolute synonyms Between words commonly classed as synonyms there is always some difference in suggestion or in area of meaning, however subtle, slight, or difficult to define The 'differentiation of synonyms' is no self-contradictory expression. Any speaker who is alive to the niceties of English realises that *trustworthy* has taken upon itself a certain colouring which does not attach to *reliable*, and that *reliable* is capable of wider uses than are permitted to *trustworthy*. The invention of *reliable* was due to the feeling that *trustworthy* scarcely expressed the truth, the whole truth, and nothing but the truth. The same reason has secured for *reliable* an increasing acceptance, though objection was, and is still, taken by the precisian to its formation. The same precisian has probably accepted equally bold formations in the shape of *laughable, available,* or *indispensable,* acknowledging that these words

possess shades of meaning which make him welcome their existence. Cicero was compelled to invent Latin words in order to express the terms or concepts of Greek philosophy, while Greek philosophy itself had coined words with the greatest freedom. ποσότης (*posotēs*) was a convenient term whereby to express 'how-much-ness,' and to Latin it was a distinct gain to possess a similar word *quantitās*. German thought is perpetually active in the way of such creations. But it is difficult, if not impossible, to find any such mere coinage which has existed beside, much less ousted, a pre-existing word of precisely the same value.

14 *Loss of words not due to 'coinage' of true synonyms : causes of loss.*——Nevertheless, although new coinages do not evict true synonyms of older standing, and although the effort of language to express all its conceptions with the nicest differentiation perpetually increases the vocabulary, it is a fact of elementary knowledge that in all languages words have continually dropped out of use and disappeared   Together with phonetic change, meaning change, and new creation, the loss of words is one of the chief causes of linguistic instability   This is apparent from the most casual comparison of Anglo-Saxon with the English of Chaucer, of this with the English of Shakespeare, and of the last with the current English of the twentieth century , or of the Italian of Dante with the Italian of Carducci , or of the Greek of Homer with that of the fifth century B C.   The process is visible in all languages which can exhibit records covering any considerable length of time   It is easy, how-ever, to misjudge the process by which this has occurred. It is only among tongues which, like English and Persian, have been in a considerable degree bilingual (whether from accident of circumstances or more or less by design), that one word has simply ousted an existing equivalent.   But this is not a case of new coinage ; it is a case of borrowing. After the Norman conquest of England and the spread of French culture, as after the Arab conquest of Persia and the spread of Saracen culture, a writer or speaker might possess

two words—a French word and an English word, or an
Eranian word and an Arabic word—between which to
choose, or he might, thanks to his social situation, be more
familiar with the word introduced than with the native term.
In point of fact the tendency was generally to select the
word with the higher social connections. In many cases
both words were retained (as in *uncouth* and *strange*, or *ways*
and *means*), with a differentiation of meaning which pro-
duced an enrichment of the language In many other
cases the older native term was discarded in favour of the
imported word. Whitney quotes the substitution of *despair*
for *wanhope*; *remorse* for *ayenbite*, *conscience* for *inwit*.
Again, in the ultra-Latinising period of English or French
after the Revival of Learning, writers and speakers with
pretensions to scholarship introduced into those languages
many Latin words for which it can scarcely be said that
there was any practical need 'Coinage' of such words
consisted only in adapting the terminations to forms already
familiar in the borrowing languages. They are in no sense
original creations Their borrowing is but a form of
deliberate bilingualism Some of the words adopted were
valuable acquisitions, some others were made useful by
differentiation of meaning side by side with the already
existing synonyms, others proved abortive, but no few of
them flourished at the expense of the native terms which
they superseded.

Losses of words from these causes are of an obvious
nature and require no further explanation. More complex
is the question why, when there has been no such bilingualism,
words once in full use have nevertheless disappeared and
been supplanted by others. The current Latin for 'fire'
was once *ignis*, but the word had entirely ceased to be
employed in the *sermo plebeius* before the Romance tongues
sprang from it The same fate befell *equus* ('horse'), *urbs*
('city'), *ensis* ('sword'). Sometimes a word, otherwise en-
tirely obsolete, lingers only in some one special phrase or
compound; as in the English *huck-ster*, *chap-man*, *nee-dle*,

woe worth the day. The area once occupied by such words is now occupied by others

If we begin with the common Indo-European vocabulary as possessed by the ancestors of the various branches, we may denote its contents by x. At this vocabulary (x) we arrive by induction, *i e.* from the evidence gathered from a collection and comparison of all the material discoverable in the earliest stages of the several branches If, next, we turn to those branches themselves, we shall find that each has already lost a proportion of the original stock of words and substituted others. One branch possesses $x - a + w$, another $x - b + y$, another $x - c + z$ Take, for example, the following series —

	SANSKRIT	GREEK	LATIN	TEUTONIC
rēĝ-	*rājan-*	(βασιλεύς)	*rēg-is*	*reiks* (only in the Celtic shape)
**su-nu-* or *su-ṇo-*	*sunu-*	υἱός (= *su-ios*)	(filius)	*son*
**dhugh-*	*duhitar*	θυγάτηρ	(filia)	*daughter*
**ĝhi-*	*himó*	χεῖμα	*hiemps*	(winter)
*peku	*paśu*	(κτήνη, πρόβατα)	*pecu*	Goth *faihu*
*drū-s	*drūś*	δρῦς	(arbos)	*tree*

The absence from extant Greek of any form of the nouns from *rēĝ-* or *peku*, from Latin of those from *su-* and *drū-*, and in Teutonic of that from *ĝhi-*, is an illustration of the loss of material. At a later date, the same process continues within each of the branches The word *eḱuos (Lat *equus*, Gk. ἵππος) was carried into Teutonic (Gothic *aihva*), but has left no representative in English, which uses 'horse'

Now since in none of these and numerous other cases has there been borrowing or bilingualism, and since language does not create new words unless from a desire to find expression for a notion which no existing word expresses, how comes the existing word to have been evicted? The answer is to be found in what has been said in a previous chapter concerning the shifting of meanings If a word a is long current in a language, but becomes ousted by β, which is no

borrowed word, but a growth of the said language itself, then either *a* or *β* or both will be found to have undergone some shifting of meaning before the supplanting could take place. If the French *toison* ('fleece'), for example, represents the Latin *tonsiōn(em)*, and this has supplanted the Latin word formerly current, viz. *vellus*, there was first a shifting of meaning either in *tonsio* (strictly 'shearing') or in *vellus* or in both That is to say, the word *β* was not a gratuitous creation expressing the same sense which was already covered by *a*. Sometimes (1) *a* and *β* existed side by side, with kindred but not identical meanings, *e g* the Latin *ignis* ('fire') and *focus* ('hearth'), and the one (*focus*) gradually came to connote and then to denote the other (*ignis*), until there was no place for that other in use So *magnus* ('great') was supplanted by *grandis* ('grown up' and so 'big') from the widening of meaning in the latter word (2) Sometimes a new formation *β* may be invented to express some shade of meaning as yet unexpressed by a single term, and may at first threaten no danger to *a*, which has its own sphere , but, by a shifting in the meaning of *β*, the words become synonymous, and *a* disappears Thus a late Latin diminutive (whether purely descriptive or affectionate) of *apis* ('bee') took the shape of *apicula* (French *abeille*) In course of time the frequent and rather undiscriminating use of the diminutive caused it to lose its particular shade of meaning and to become identical in sense with *apis* itself The Latin word *filius*, which has supplanted the cognate of *son* (Skt. *sunuš*, Gk. *υἱός*), apparently meant 'suckling,' and therefore was no idly created synonym The loss of the earlier term is assuredly due to a frequent and increasing application or misapplication of the name 'suckling,' that is to say, to a shifting in the sense of *filius*.

The doctrine that a language creates no true synonyms, is not contradicted by the existence side by side of, *e g*, Latin *serpens* and *anguis*, Greek *ἔχις* and *ὄφις*, for 'snake.' The self-same snake may be regarded from various points of view ; he may be the 'crawler,' the 'coiler,' or the 'gleaming-

eyed.' When each of the several words is coined, its special signification is felt and intended. If at a later date the special colouring is lost from consciousness, and nothing more is thought of than the general notion ' snake,' we arrive at synonyms. Nevertheless the language did not create them to serve as such So an early boat of the self-same formation and purpose may be the ' floater ' (a sense which seems to underlie Latin *nāvis* and Gk *ναῦς*) or the ' dug-out ' (as in Gk. *σκάφος*) It is probable that in primitive Indo-European times both names were applied The earth may be regarded as the ' dry ' element in contrast with the water, or as the ' firm ' in contrast with the fluid. A snail is either a ' crawler ' or a 'house-bearer ' (Gk. *φερέοικος*) The house may be regarded as a ' covering ' (the probable meaning of the English term), or an ' abode,' or a ' build-ing.' Though a house might be called by any one of these titles, the words were not synonyms so long as their original meanings were realised. Yet it is manifest that such a series of expressions habitually applied to the same object would often end in two or more of them ceasing to be discriminated in actual use. The result is a pair (or larger number) of real synonyms, and, as a further consequence, one of these will prevail, and the other, or others, will disappear. The true statement, however, to meet such instances is not that an original word *a* was thrust out by the invention of a synonymous *β*, but that, through shifting (whether widening or narrowing or decoloration) of the sense of one or both, the two words *became* synonymous, and one thrust out the other.

The further obsolescence of words through the obso-lescence of the thing or process which they denoted is a phenomenon easy to understand. Whitney illustrates by the loss of terms (e.g *jess*) pertaining to hawking, when hawking itself ceased to be practised Not infrequently some of the words belonging to an obsolete art or custom may survive in a figurative application Thus *jovial* and *saturnine* are survivals from astrology, *the lists* are properly

those of the tournament. But for the most part the terms disappear with their occasion Such losses, however, count for comparatively little in the development of language in general.

15 *Effects of the analogical instinct.*—Of the greatest importance in the history of language has been the force of analogy. The subject is so large and is capable of such extensive illustration that it deserves to be, and has been, treated in monographs Fortunately it is among the most easy to comprehend , and in a first survey it may suffice to indicate the general character of the force in question Under the name of 'analogy' are appropriately classed all those phenomena of change or formation which are due to the simplifying or systematising instinct. It is, for example, a natural tendency of the human mind to reduce the flexion for numbers, cases, tenses, and the like to one form for each purpose. Varieties tend to disappear in favour of uniformity Words belonging to the same class, such as verbal abstracts, incline to follow one principle of formation in place of several The position of the accent in a word also tends to become regular and consistent.

The changes of language in this direction have not, however, been deliberate. The minds of the speakers with whom they first begin are not suffering any conscious displeasure at the apparently arbitrary diversity of the existing signs for the plural or the genitive, or of the existing manners of forming adverbs or verbal nouns, or of the existing incidences of the accent If the plural of *day* in old English ended in *s* (*days*) ; if that of *ox* and *eye* ended in *n* (whence *oxen*, the poetical *eyn*, and the proverbial *hawks' een*) ; if that of *sheep* or *head* took no plural ending at all (whence *sheep*, and such expressions as *twenty head of cattle*) ; and if plurals formed in these and other ways (e.g *cildru*, *fēt*, i.e. feet) displayed far more variety than they display in modern English (in which *eyes*, *heads*, etc., have been substituted), it is not to be supposed that such changes as have occurred were in any way the outcome of vexation at

such apparent absence of system, or even of conscious
comment upon it   If *blasphémous, balcóny, satéllites* were
once the recognised accentuations, while modern English
says *blásphemous, bálcony, sátellites*, it is not because speakers
said to themselves, "English regularly places its accent upon
the first syllable, and it is right that these words should be
accommodated to the rule."   It is rather that the speakers
were, for the time being at least, oblivious, if not altogether
ignorant, of the diversity in question   Those who first said
eyes or *heads* (and there must have been many who so spoke
before the use became on a fair way toward establishment)
were not at the moment alive to the fact that the standard
form was *eyen* or *head*.   To them the notion of a plural was
commonly associated with the sign *s*, and *eyes, heads* sprang
to their lips instinctively.   Similarly those who first said
blásphemous were led to do so, not by any desire to be con-
sistent, but from a long-established habit of placing the
stress-accent upon the earliest syllable   The psychological
process is precisely that which is so easily discernible in
children.   Though they may hear around them the standard
forms *feet, men*, along with the standard forms *chairs, cups,
cakes*, etc., such 'irregular' plurals are comparatively in-
frequent——that infrequency being, indeed, the only reasons
why they are styled 'irregular.'   That, in speaking of more
than one thing of a kind, the sound *s* is commonly appended,
is one of the earliest facts borne in upon the consciousness
of the child   The exceptions, which meet the ear more
seldom, are realised but slowly, and sometimes only after
special instruction   Hence the child naturally speaks of
foots, mans, oxes.   The same is commonly the case with a
foreigner, when he is acquiring a language without constant
reference to his grammar-book.

Similarly the child comes at a very early stage of speak-
ing to apprehend that in referring to past time the sound *d*
is attached to the verb   Though there are no inconsiderable
number of words which in this respect are 'irregular,' and
which the child cannot fail to have heard (e.g. *ate, drank,*

went), yet the preponderance is altogether in favour of such preterites as *walked, talked, asked, told*, in which *d* plays its part   Instinctively therefore he uses *goed, comed, bited, seed*, until he is taught better, either by further observation or by direct admonition.   Such innovations as these must have sprung up, with or without permanent result, at all periods of a language, when that language afforded similar occasions for them   We now live in an age of education, which deliberately protects peculiar or, abnormal forms.   But it is manifest that, in ages and languages in which the natural tendencies are not thus artificially checked, far-reaching effects must have followed the systematising instinct

So far as actual linguistic evidence goes, simplifying through analogy has been in perpetual operation   Nor should anything else be expected, if we concede the claim already made for the evolution of language, namely, that it is in the direction of least effort to both the speaker and the hearer   In maturity, and after abundant observation and practice, neither party to the act of conversation may be in the least aware of any effort to employ or recognise a less usual form of past tense or plural sign or case-ending   Yet every form of correction or adjustment involves some effort, however little realised   Since, as has been shown, the natural tendency of childhood is towards entire uniformity, there must have occurred certain acts of mental readjustment— however inappreciable to consciousness—during the time when *seed, goed, foots* were being replaced by the standard *saw, went, feet*.   With an unfettered development of speech along natural lines there would cease to be any obligation to make such efforts at all.   In other words, abnormalities would disappear.   Meanwhile, from the point of view of the hearer, it is self-evident that a greater amount of mental exertion is required in instantaneously recognising any one of several different suffixes as denoting plurality than in recognising only one of them in that function.   We do not, and cannot, in actual speech, follow the minute psychological operations which occur when we hear the word *days*.   We

are blissfully unaware of the operations at all, and are wont to call them automatic   Yet it is manifest that the added *s* converts the mental conception of a day into that of several, and that one operation follows another, with whatever incalculable rapidity

It is as certain as anything can be in psychology that it would be an economising of the work to be done by the brain-tissues, if the invariable *s* were the only sound ever employed to produce this particular effect   The same remark is true of all other ' irregularities ' in grammar   At all times, therefore, and in all languages in which perfect regularity does not exist, steps towards greater uniformity have been made

Where there is great variety of form in a special function (*e g* many forms of plural), and where no one form is palpably predominant, the process will be slow   there is as yet none so strong as specially to attract the rest   But when once a particular form unmistakably preponderates among common words, it tends more and more to assimilate the others.   This has been the case with the English plural *s*   A similar phenomenon is conspicuous in French   In the transition from Latin to modern French it happened (for causes which might be assigned) to be the accusative which prevailed over the other cases as the accepted form of a word   But in Latin, whatever differences there may be in the nominative plural, the accusative plurals (except in neuter nouns) all ended in *s* (*-ās, -ōs, -ēs, -ūs*).   It followed that *s* was the French plural-sign in the great majority of words, to wit, all that were Latin masculines and feminines   Against this preponderance the neuters (whose Latin plurals ended in *-a*, and thence their old French plurals in *-e*) could not hold their ground, and hence to them also the *-s* passed by analogy

We cannot, indeed, always trace the reasons for which one form gained its first preponderance amid an earlier variety , but, the predominance once gained, its effect is sufficiently easy to follow   Its gains are at first slow, but

their increase is apt to be somewhat like that of the proverbial snowball. The termination *-ūtus* in past participles passive would not be regarded by a Latin scholar as particularly characteristic of that language It occurs, indeed, in the sufficiently common *locūtus, secūtus, solūtus, indūtus* But it is not very clear why this particular form, rather than others more common and used in at least equally familiar words, acquired an assimilative power and at last converted *habitus, venditus, ruptus* and the like into *habūtus, vendūtus, rumpūtus* The beginnings of the assimilation must have been gradual, but the gain of any one word obviously lends just so much more strength to the influence put forth by the group, and, given no counteracting principle, natural or artificial, the end would be the absorption of all other forms. Brugmann points out that in modern Servian and Slovenian all verbs end alike in the first person singular (*-m*), the original difference having been entirely wiped out by the influence of four old Slavonic verbs, *jesmi, vemi, dami, jami.*

The same force of analogy which operates upon flexions, operates upon the formation of words. In the spontaneous creation of new words out of old material the mind is influenced by existing words of similar character or function A certain word, or type of word, possesses certain associations In inventing a new word with similar or analogous associations we incline to give it a shape recalling that already in existence. It is, in fact, this shape which commonly offers itself before we think of any other. Strict etymology or technically 'correct' formations are sought only in the creation of technical or abstract terms by persons of learning For the most part no such discrimination is made, and it would be irrational to suppose that any was made in pre-educational times The English *further* is the comparative of *forth*, and the *th* is etymologically correct The formation of *farther* from *far* is a striking example of the effect of association of ideas, or analogy, although in this instance a general similarity in the shape of the words must have lent no inconsiderable help The Latin noun for

'north' was *septentrio*, with stem *septentriōn-*.   The adjective
was formed by adding *-ālis*, i e *septentriōnālis*.   Meanwhile
the noun for 'south' was *merīdiēs*   Those who created the
adjective *merīdi-ōnālis* were as manifestly influenced by
septentriōnālis as the English inventor of *witti-cism* was
influenced by the existence of *critic-ism*   In French, as
Henry observes, the suffix *-ier* added to, e g , *lait*, *sabot*,
produces *laitier*, *sabotier*   Since the final *t* of *lait*, *sabot* is
inaudible, while in the interior of *laitier*, *sabotier* it is pro-
nounced, the mind naturally conceives of *-tier* as the suffix
Hence from *bijou* the result is not *bijou-ier* but *bijoutier*
Contemporary inventors of patent drugs or washes commonly
attach a suffix *-ine* or *-line*, of which they could render no
account, except that it occurs in certain words belonging to
articles of the same kind   The English *-ling*, which serves
as diminutive, is an accidental instance of the attachment
of a more original *-ing* to certain words ending in *-l*, just
as the German abstract suffix *-keit* is due to certain words
in which a true element *-heit* was suffixed to a termination
in *-c* (e g   *miltec-heit*, whence *miltekeit*)   The same non-
etymological, but highly natural, manner of word-building
is to be found at all stages of language, so far as we are in
a position to analyse their morphology   In Greek a feminine
suffix was *-ja*   This, attached to a stem in *-η̯*, produced
-avja (*-anja*) and thence *-aiva* (*-aina*).   Such words as
τέκταινα, λέαινα, are thus correctly formed from the same
stem as the masculine τέκτων (*tektōn*), λέων (*leōn*)   These
forms developed themselves without conscious effort of
thought and, of course, without etymological reflection.
But, when once they existed, the notion of the feminine
animal became associated with a termination *-aiva*, and in
consequence the feminine of λύκος (*luko-*) or ὗς (*hu-*) also
becomes λύκαινα, ὕαινα, although there never was any *-η̯*
whatever in the stem

   This process is so entirely natural, not to say inevitable,
that it must have been in operation long before we possess
the linguistic records   We have to assume that Indo-

European, for example, had passed through a long development before the date at which we can approximately discern its words and forms , we must also assume that the analytical influence had been perpetually at work upon it for an unknown number of generations This consideration will show how impossible is the task of reducing the entirely primitive suffixes or demonstrative elements of that language to a simple and definite list It would be easy to fall into the error of assuming that *-ling* in English was a simple suffix, or that *-αινα* was such in Greek We may as easily make the same mistake with apparently simple suffixes in the Indo-European or other Ursprache.

But, while we must guard against such error, it is beyond question that the general outcome of the study of analytical working is to reduce primitive suffixes to simpler and simpler forms—a result which is in keeping with the theory that they were once mainly ejaculations accompanied by deictic gesture.

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